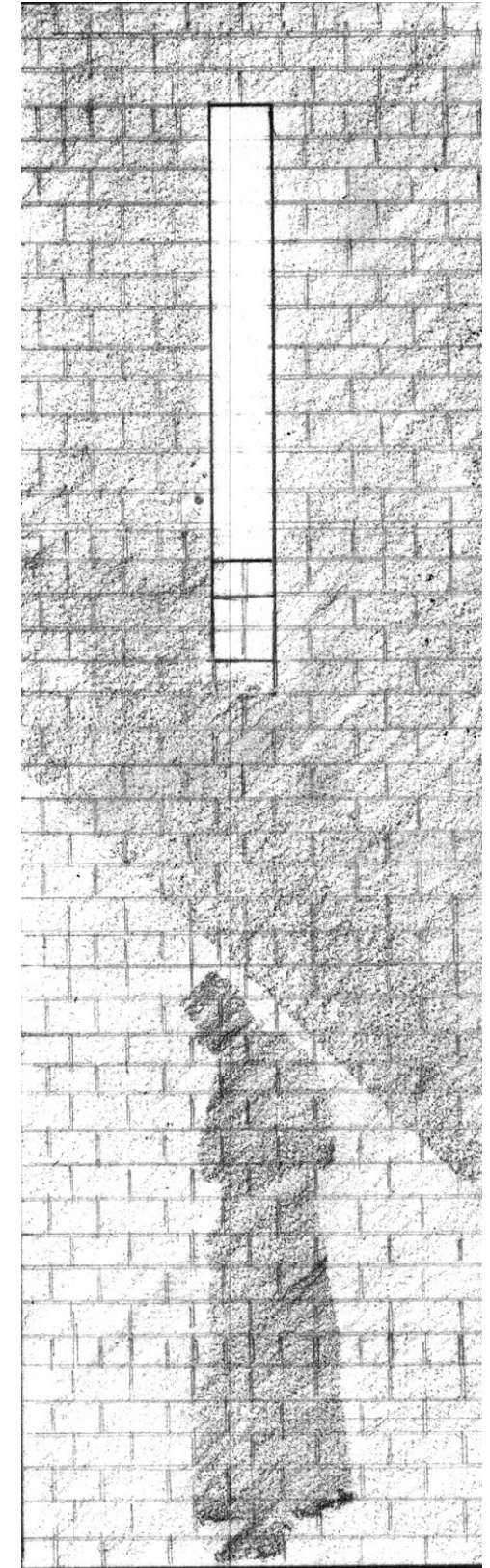


ON SENSORIAL ENCOUNTERS WITH ARCHITECTURE



thesis submitted to the faculty of Virginia Polytechnic Institute and State University in partial fulfillment of the degree of master of architecture

October 12, 2009 | Alexandria, Virginia

by Taylor Richard Clark

Paul F. Emmons, chair

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This is a study of the body and architecture, the way in which the two experience one another, the way in which one can inform the other. This thesis was centered around the consideration of the senses not as separate inputs, but as one harmonious quality of perception. The project began as an attempt to explore how the non-visual senses could inform the architectural gestation and developed into an exercise using the visual medium of drawings to illicit qualities beyond sight alone. The attempt to capture material quality through abstraction was likened to the search for the divine through our carnal existence on earth. The results attempted to express sensual qualities through a mixture of different media and their layering to demonstrate the development of the whole through the gestation and gradual realization of its fragments.

A site in Old Town Alexandria, Virginia was chosen for its relationship to the tidal water of the Potomac River and the opportunities its previous life as a shipyard presented, as half of the site was excavated into the shore-line. The proposal of a spiritual home, a Cistercian monastery on a site that straddles land and water fit ideally with the theme of addressing materiality and abstract representation, the physical and spiritual, and the mind and body. Both the site and the program provided a fruitful counterpoint with which the thesis developed.



‘The blind man’s world differs from the normal person’s not only through the quantity of material at his disposal, but also through the *structure* of the whole.’
-Maurice Merleau-Ponty,
The Phenomenology of Perception

for my parents

acknowledgments

The gratitude I have for the people that have contributed to my intellectual and personal growth cannot be fully expressed on this page alone. It is my hope that the work I have done and the work I have yet to do will be a testament to the care and time they have given me.

To my teachers, my colleagues,
my friends, and my family
I am forever indebted.
Thank you.



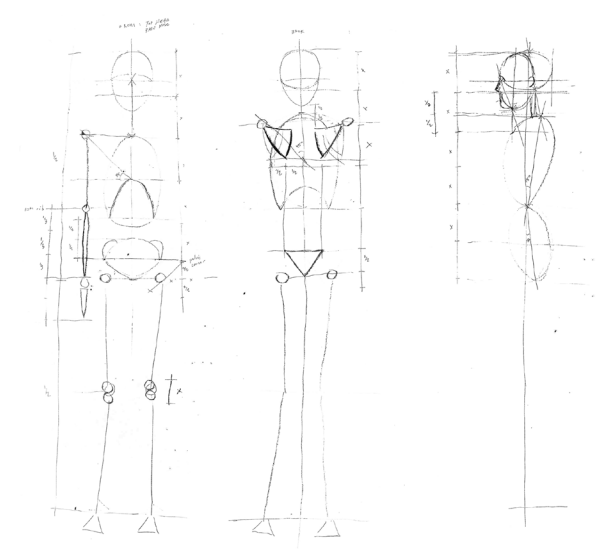
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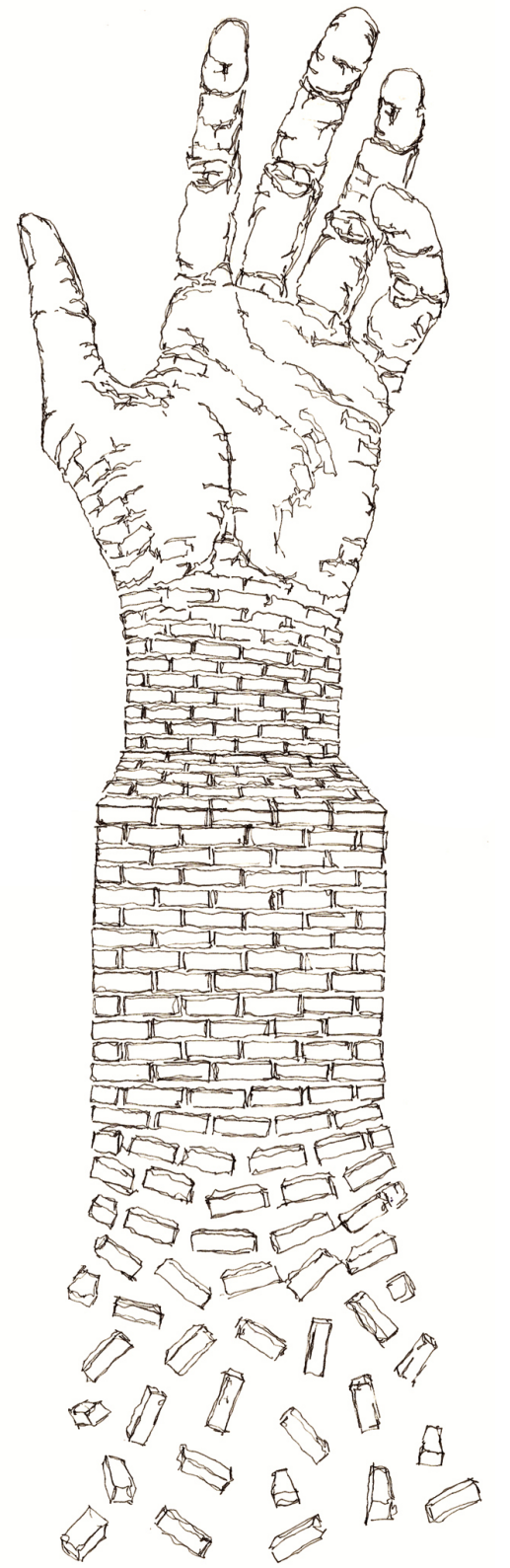
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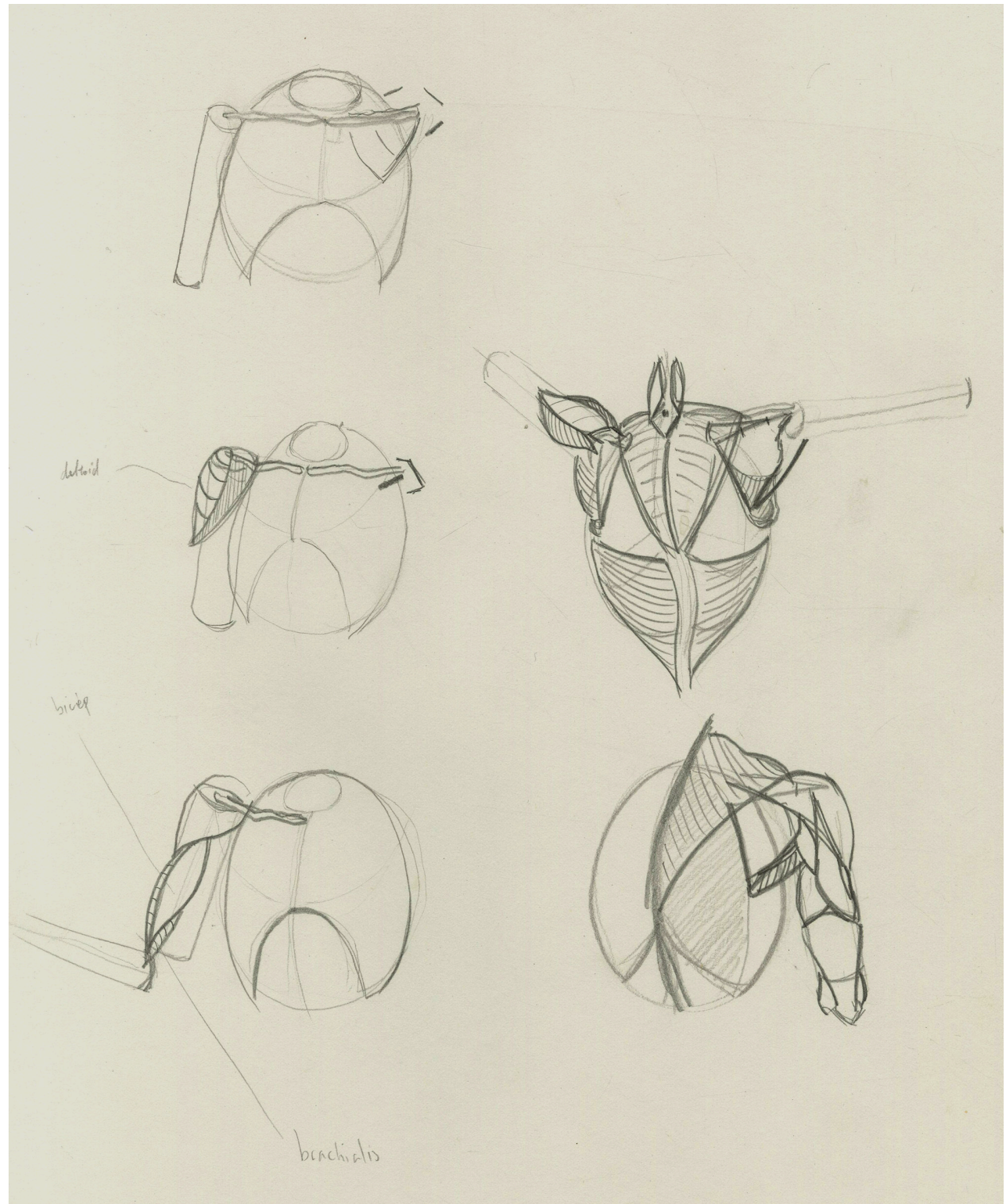
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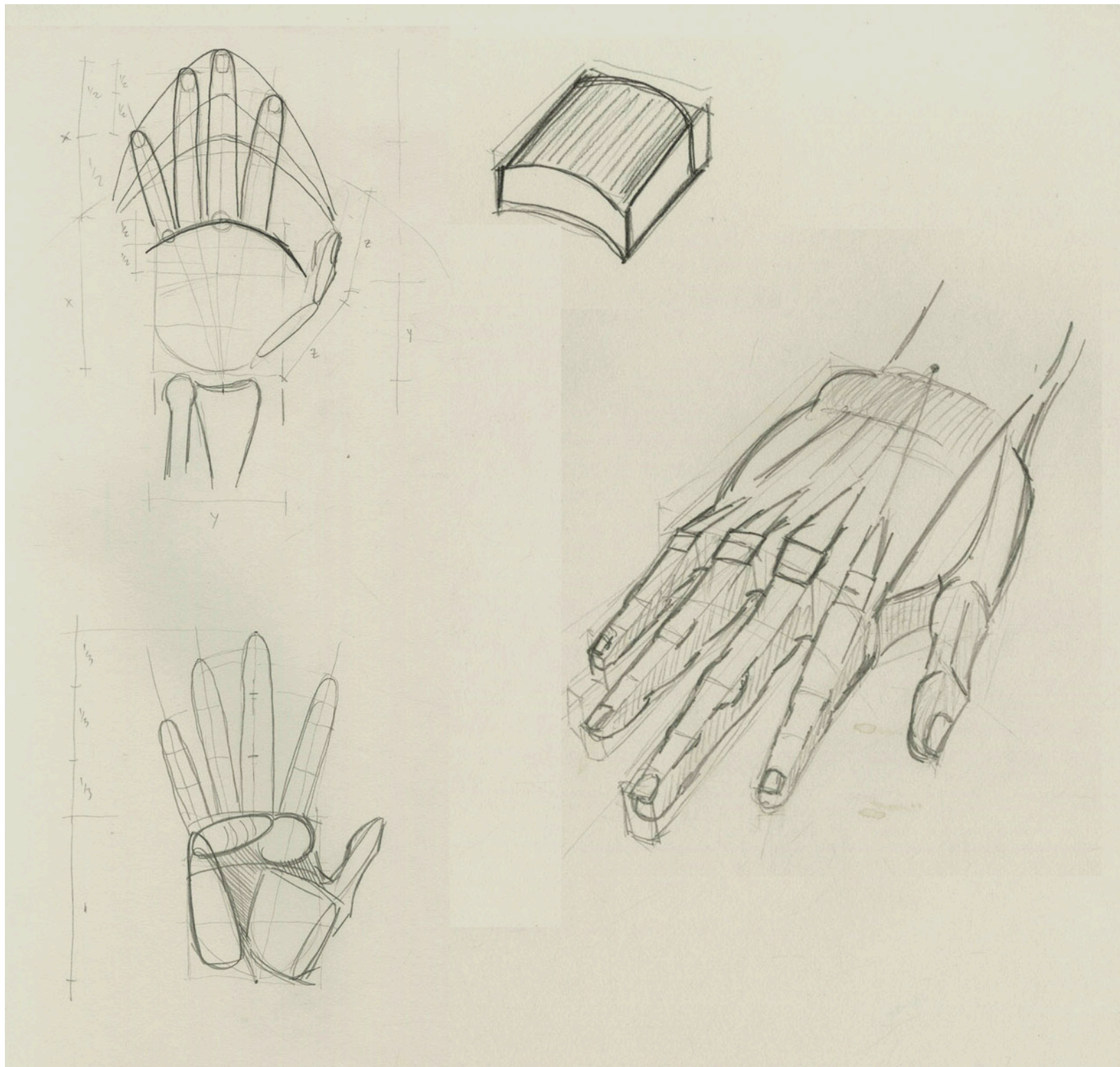
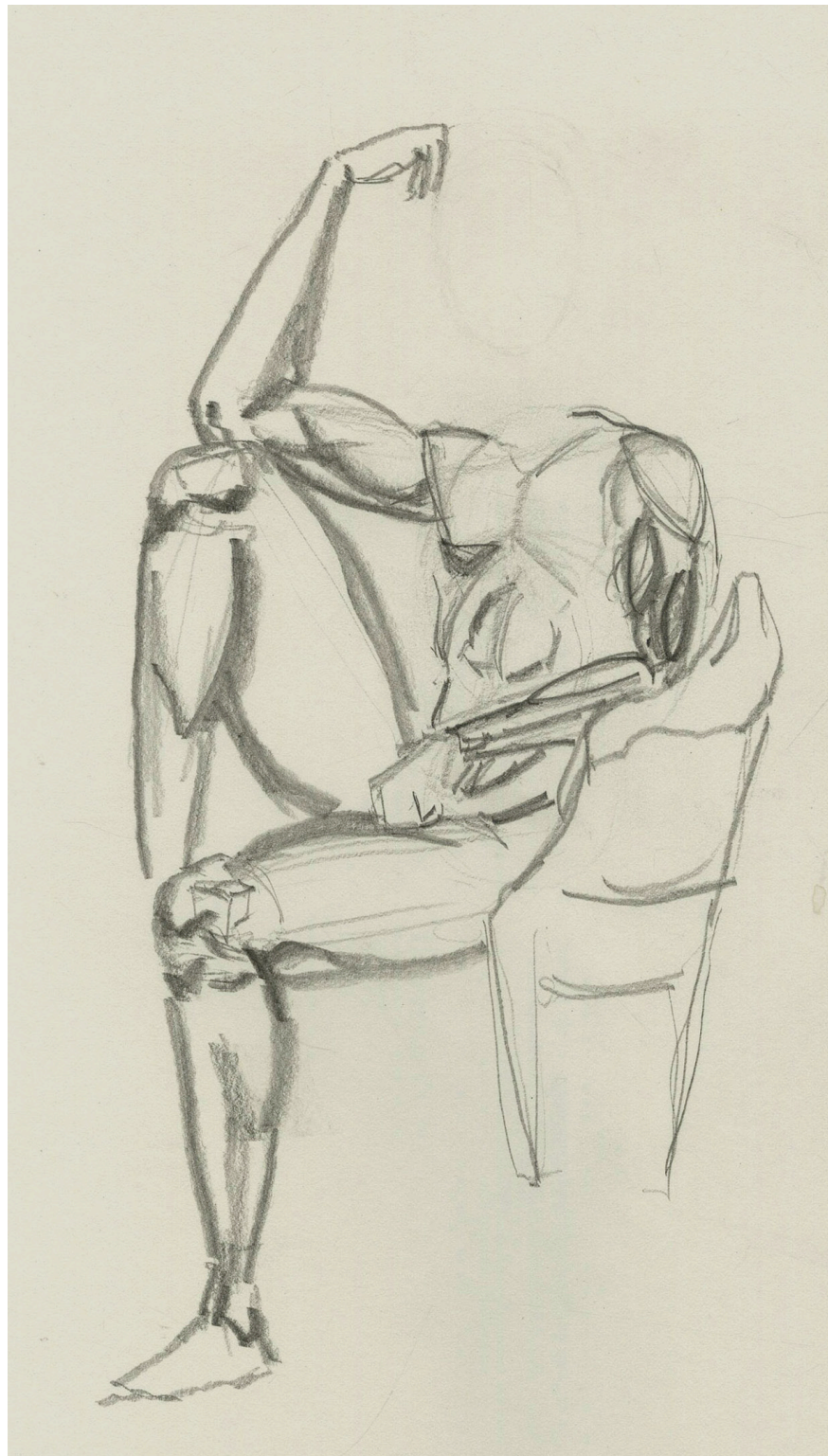
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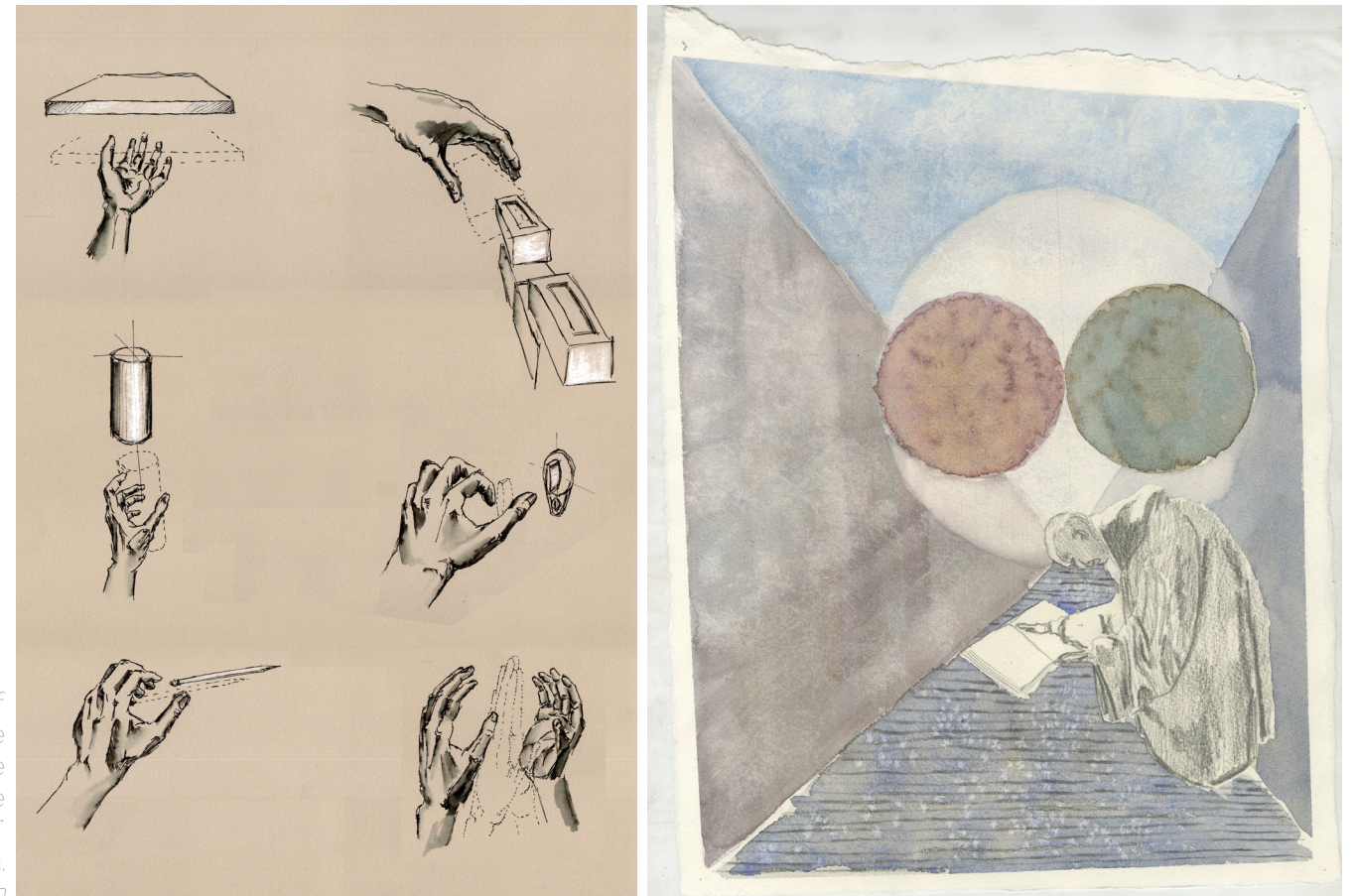


The research for this thesis began by asking what architecture can offer the blind. It was an attempt to begin a conversation that was not founded on the seemingly dominant visual tendencies of design. It was expected that the image would be the prominent means of communicating architectural ideas, but this question was intended to steer the conversation away from 'architecture as the iconographic, the spectacle, and built metaphor.' The physical and psychological interaction with the built environment has always elicited the mind far beyond sight alone and it does not reside in any single sensation alone at any given time. This study came to challenge the classification of our senses as individual processes with which one simply collects, organizes, and reassembles encounters with the world. In order to explore our corporeal awareness and how the harmony of the senses could inform architectural decisions, it was necessary to imagine the vessel, the body, as fragmented sensations capable of emerging as a singular, perceiving subject.



'I am never here only, as this encapsulated body; rather
I am there, that is, I already pervade the space of the
room, and only thus can I go through it.'
-Martin Heidegger,
Building Dwelling Thinking

So much of our understanding of the world begins with our hands and our desire to touch. The importance of the hand in our perception has even become ingrained in our language. As we 'grasp' a concept, 'hold on' to memories, or 'get a feel' for something, we suggest that our minds truly encounter and understand a subject on an intimate level beyond that which passive observation might yield. If architecture aims to interpret and manifest abstract concepts through the physical act of making, then touch is central to the inception of an architectural work. Whether we are aware of it or not, our hands serve as an extension of the mind and play a vital role in forming our spatial knowledge. The empathetic hand both seeks and receives the matter it encounters. Empathy of the hand therefore implies empathy of the mind, a preemptive awareness of what our hands already know. As we reach for an object, our grip instinctively anticipates its shape, handmade artifacts inevitably tell the story of the hand's work, the form of the tools we use to build reveal the hands that hold them. And the architectural drawing, as an evolving demonstration of the physical act of making, communicates through a deep connection with the hand, and the hand's awareness of the world it encounters.



'The skin reads the texture, weight, and density of matter...The door handle is the handshake of the building. The tactile sense connects us with time and tradition: through impressions of touch we shake the hands of countless generations'
-Juhani Pallasmaa,
The Eyes of the Skin

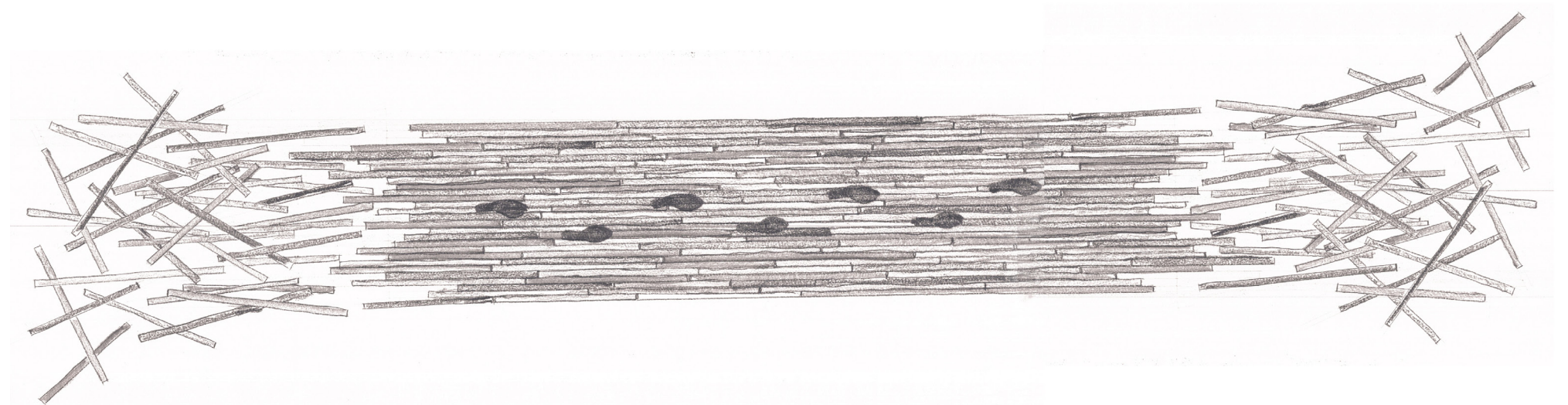
A variation of opus reticulatum construction was chosen for the majority of the masonry structure because of its economic employment of local materials and the significance of this construction with the tenets of the thesis. This ancient method of wall construction uses an outer formwork of brick that is filled with concrete which in turn binds to the interior joints of the brick shell. Due to the tendency of the poured concrete to exert an outward force on the brick formwork, the wall is built in stages, the coursing height directly dependent on the relative width of the wall and the outward forces of the poured concrete. Since the hand-laid brick formwork is integral to the wall's staged construction, there is no need for heavy mechanized equipment and wasted material is limited. The variations of the brick courses and each layer of the wall are legible, and therefore tell the story of its own creation.



"The location of those details gives birth to the conventions that tie a meaning to a perception..Each detail tells us the story of its making, of its placing, and of its dimensioning"
-Marco Frascari,
The Tell-the-Tale Detail

Neither architecture or the body can be imagined without a spatial element and therefore cannot be without the element of time. Designing with time acknowledges an as yet unrealized material life. The story of a building's decay can inform its gestation long before the first brick is laid. The promises of design also bring with it the inevitable destruction of nature. If shadows are a promise of materiality, then the element of time promises our own mortality.

Our sensual perception of the world exists in the past, present, and future. Our experiences build a foundation for our memories, returning through sounds, scent, or texture of a previous encounter. Our moment in the present is plastic, constantly drawing from our past and fueling our expectations of the future. This 'timelessness' of perception can separate us from the 'nowness' of the present and connects us to our greater cultural canon.



'Natural materials express their age and history, as well as the story of their origins and their history of human use. All matter exists in the continuum of time.'

'Architecture emancipates us from the embrace of the present and allows us to experience the slow, healing flow of time...(It) enables us to see and understand the passing of history, and to participate in time cycles that surpass individual life.'

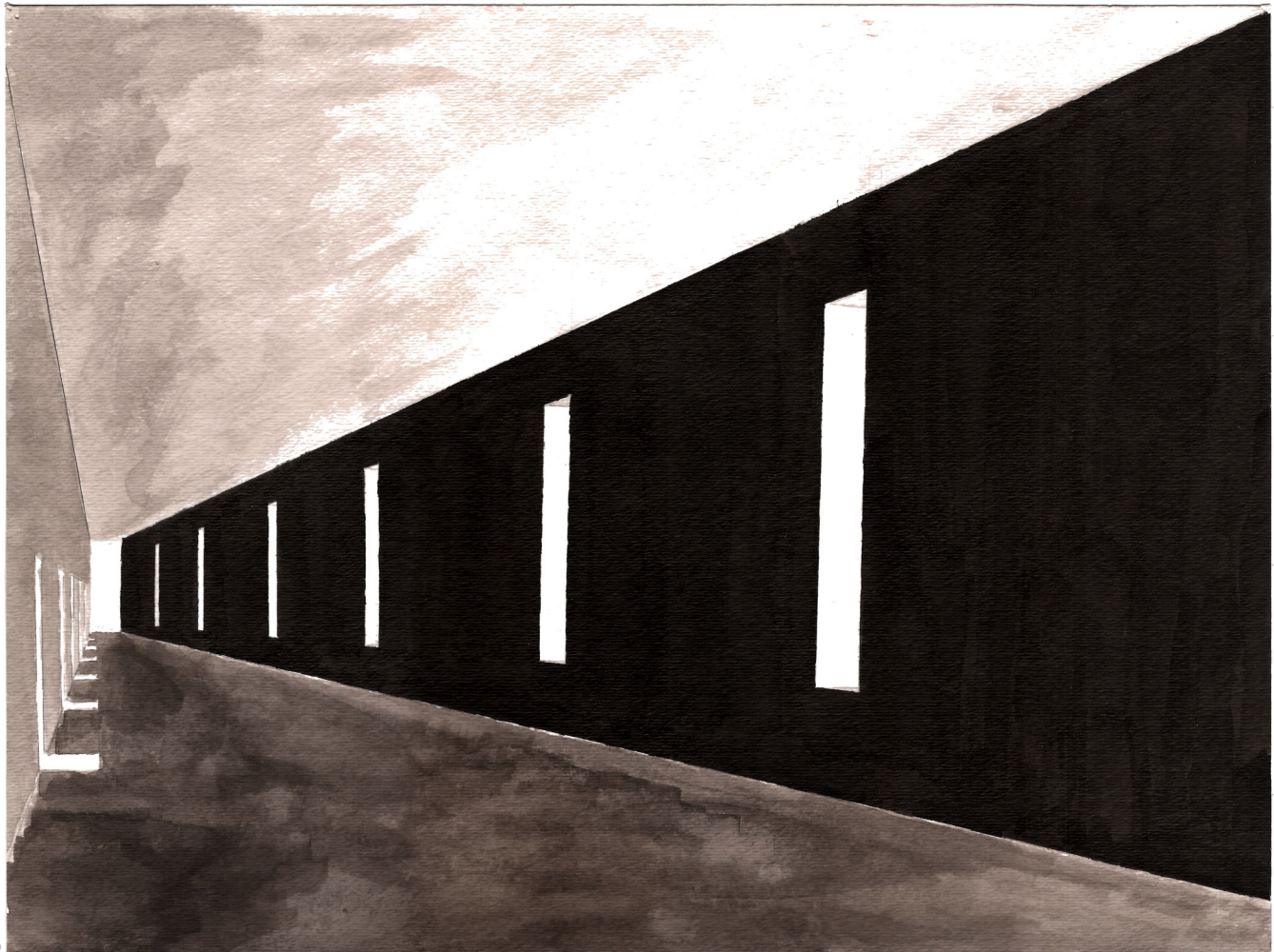
-Juhani Pallasmaa,
The Eyes of the Skin

The body's haptic awareness extends beyond the skin and touches the limits around it. Our 'encounter' with architecture is what Juhani Pallasmaa considers to be our actual experience of architecture, the space we sense in the moment. A building is not to be thought of as a singular object, but perhaps more of a series of moments and events that are perceived by our selves, and in turn we are acted upon by these same elements (Pallasmaa, 60). The living, moving body inherently understands rhythm through its own physiology, our heartbeat, our breathing, and our ritual provides a pulse to living, a steadying pace to our interaction with the world. Architecture provides a meter and the body provides the syncopation with its movement through it. Architecture of the body succeeds when it embraces the interplay of the two. Our footsteps reveal the floor to us, our movement on stairs is a dance. Openings in walls invite the elements: sunlight and shadow and sunlight. One discovers the other as the body moves through these atmospheres as a complementary and beautifully improvised duet.

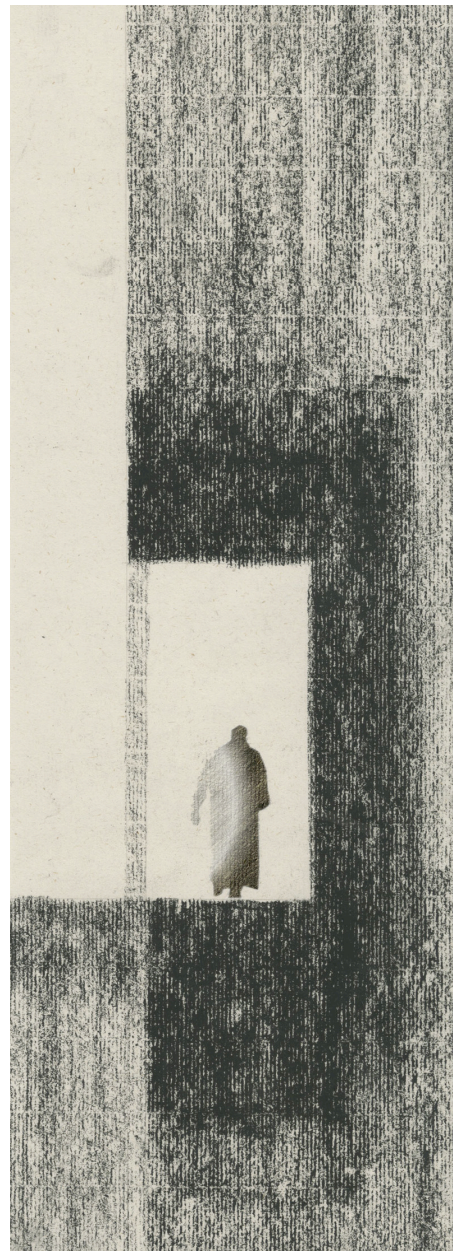
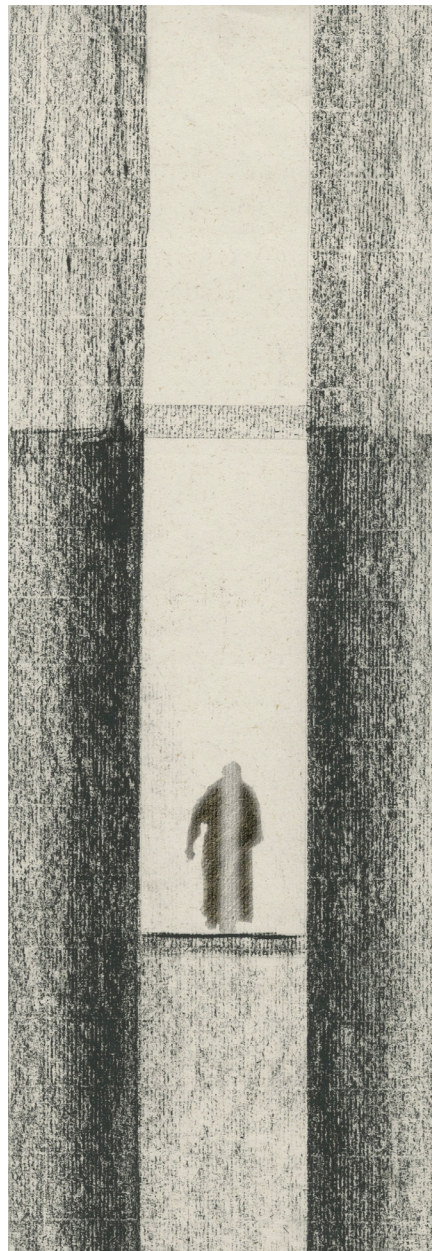
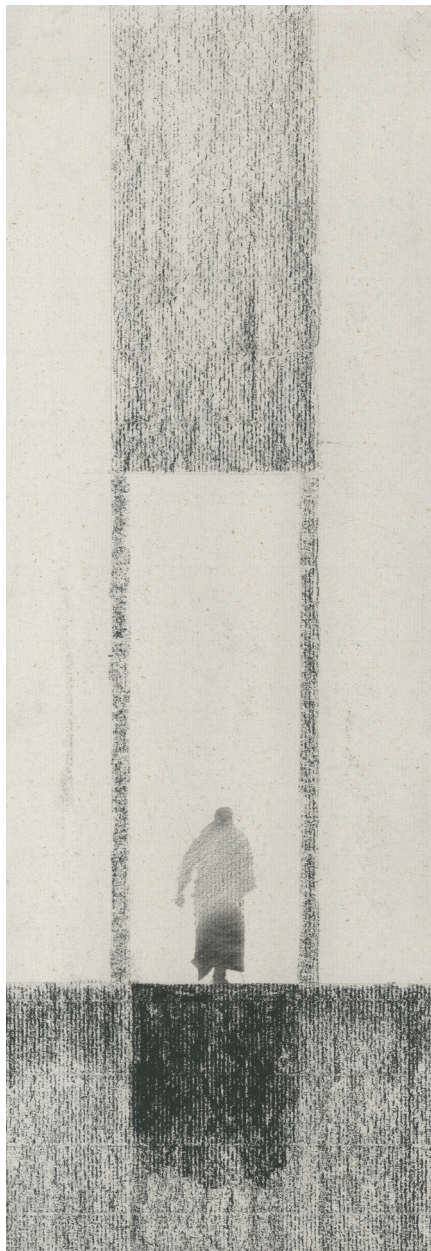
'Architecture has its own realm. It has a special physical relationship with life. I do not think of it primarily as either a message or a symbol, but as an envelope and background for life which goes on in and around it, a sensitive container for the rhythm of footsteps on the floor, for the concentration of work, for the silence of sleep'
-Peter Zumthor,
Thinking Architecture

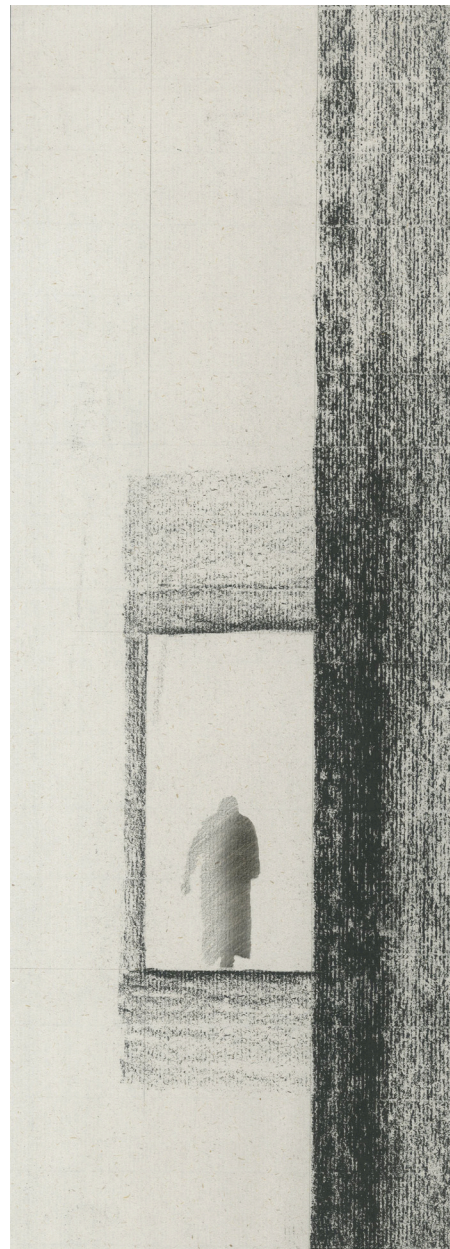
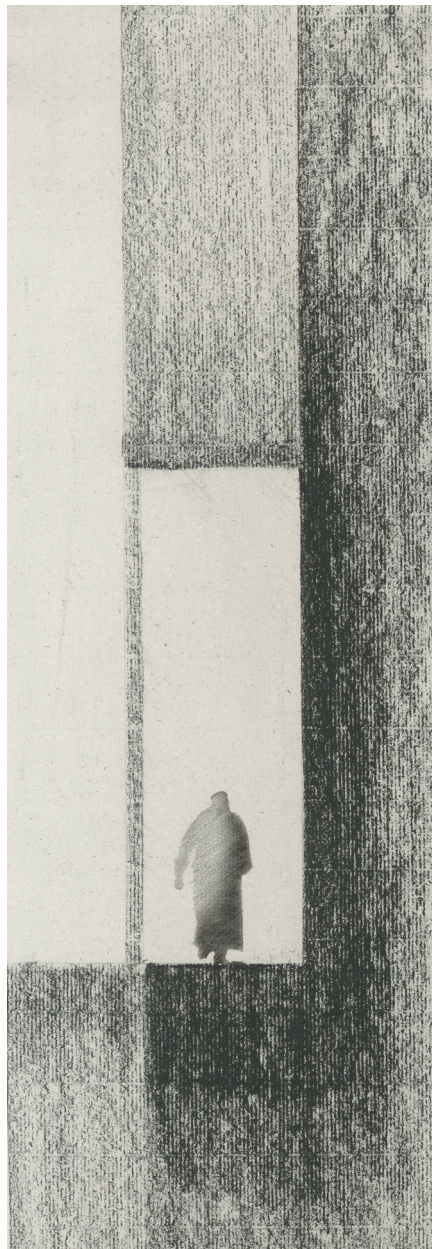
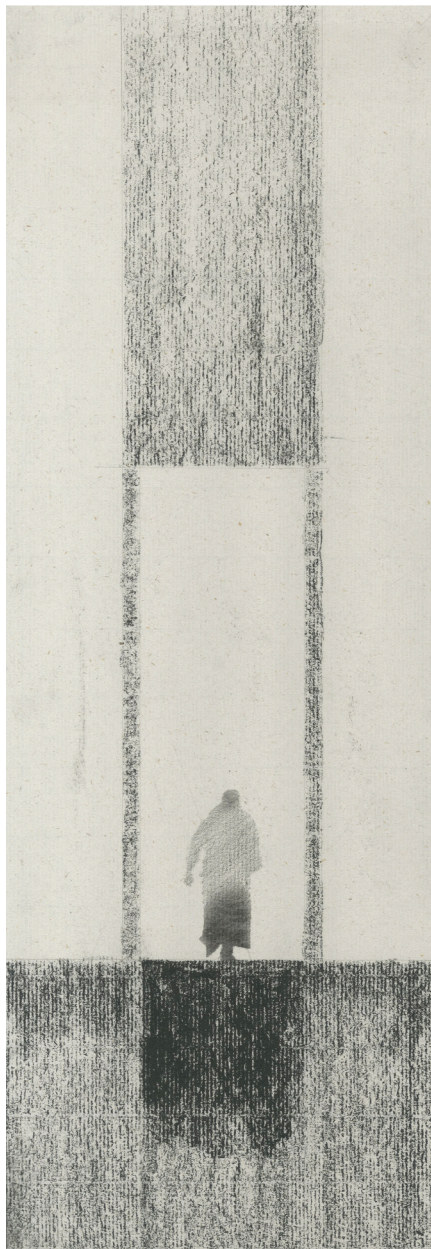


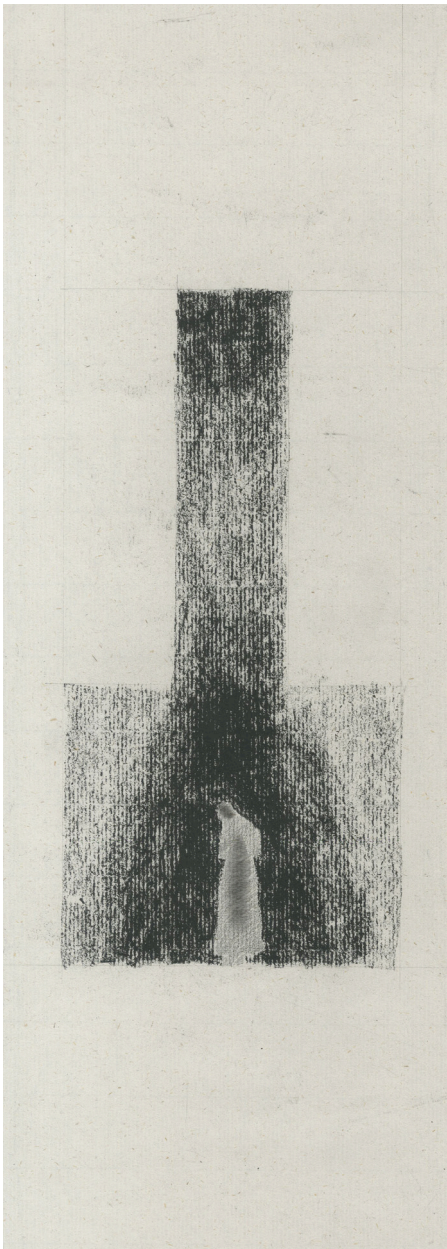
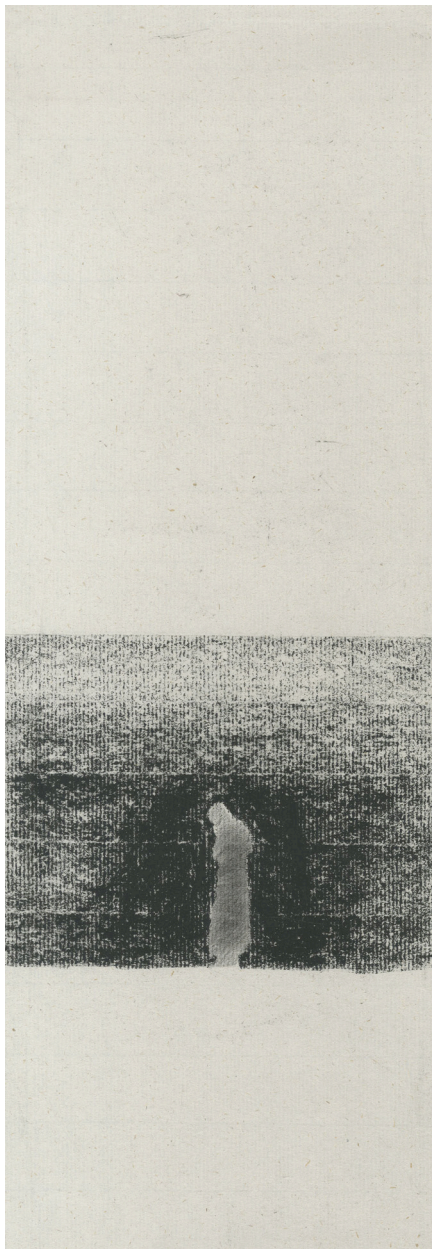
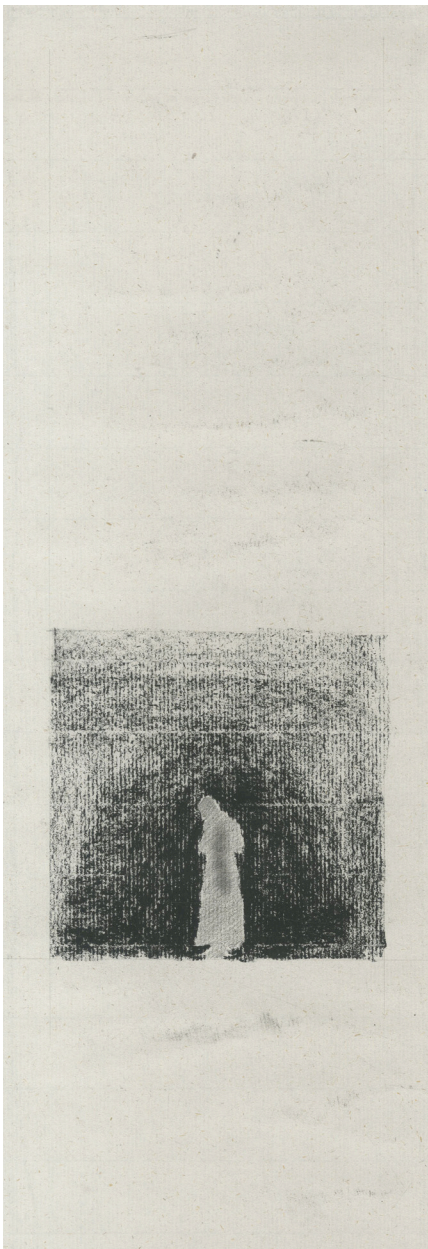
Consider all material qualities that our bodies encounter as being placed along a 'gradient', or rather our conception of a material quality as beginning and revealing itself through our experience and relationship with other similar and dissimilar qualities. We know one thing to be how it is because it is unlike the other or similar to another. Qualities like hardness, roughness, temperature, and weight occupy an essence beyond the visual field alone; our bodies can feel without touching, or sense their age through scent. Through our bodies, we elaborate and reveal their quality with the caressing of a stone wall, the echo our footsteps make on a hard floor, the weight of a door that pushes us back, the fleeting warmth of our skin as we pass from sunlight to shade. The warmth of our own body is never more evident than when it encounters a cold element and never as soft as when it encounters a resistant one. This ability to grasp where one thing ends and another begins, this moment where one body meets another is where they can begin to define and play off each other. This tectonic moment is vital to beginning an empathetic architecture.

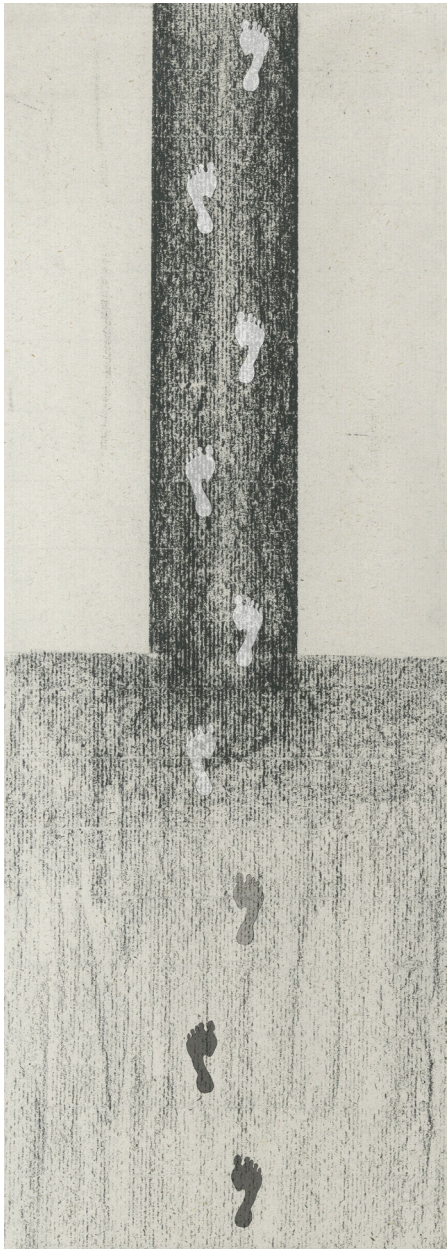
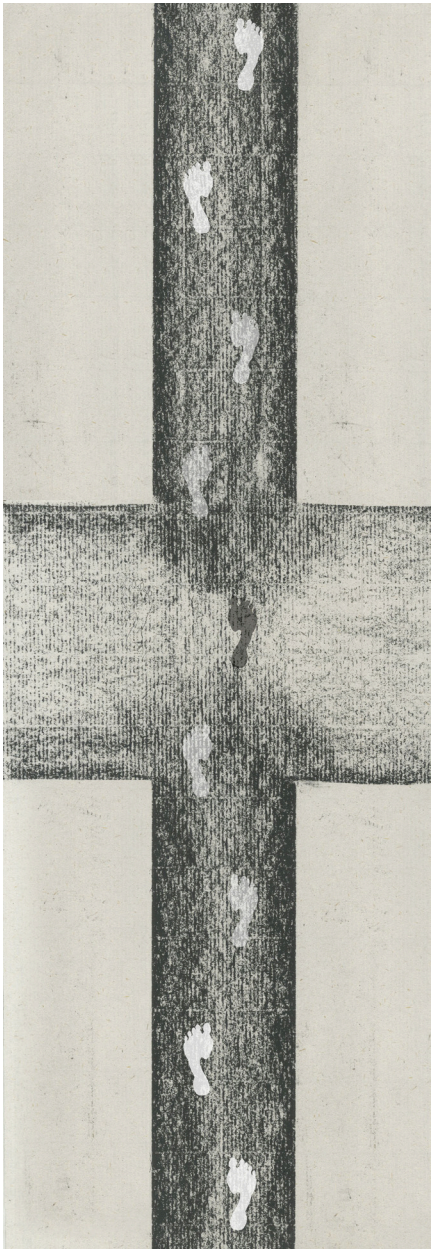
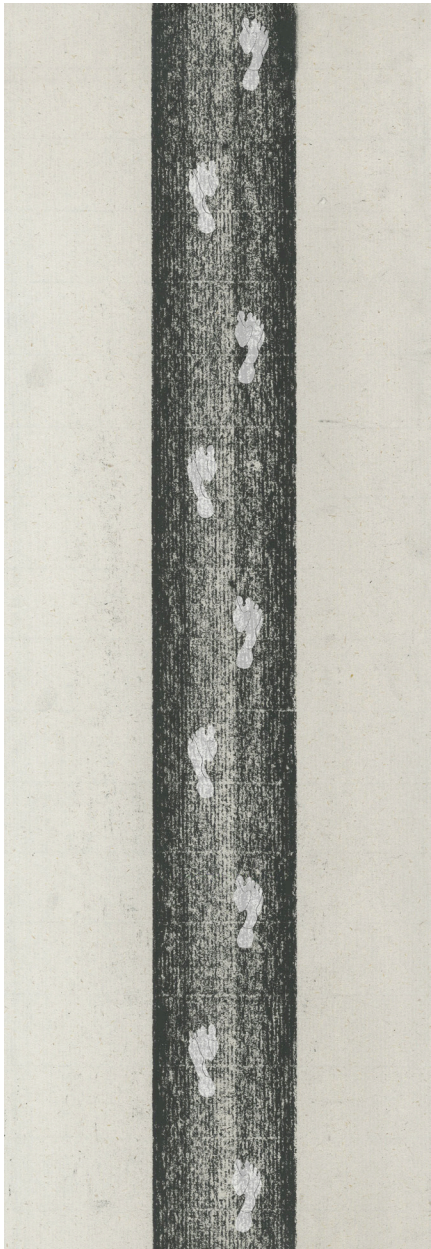


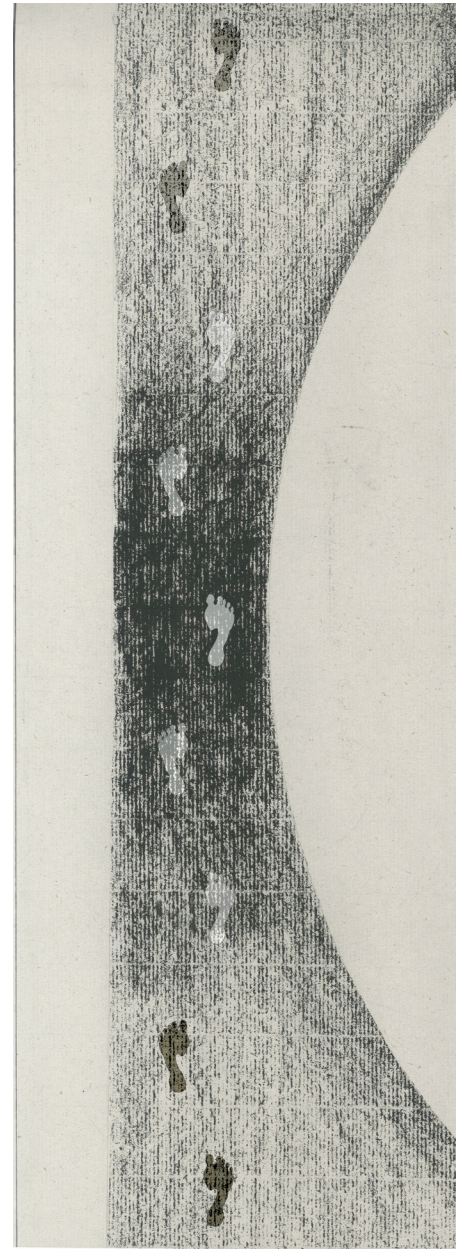
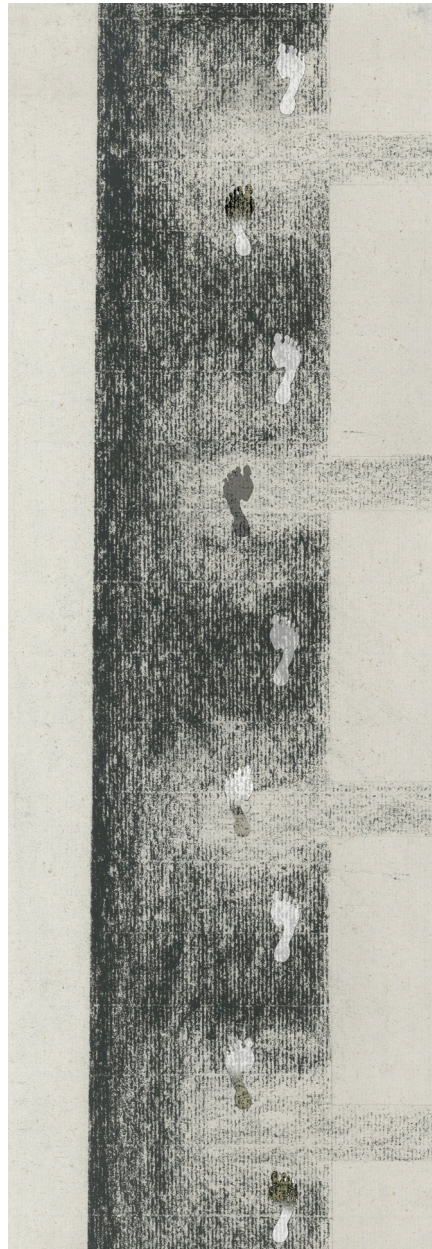
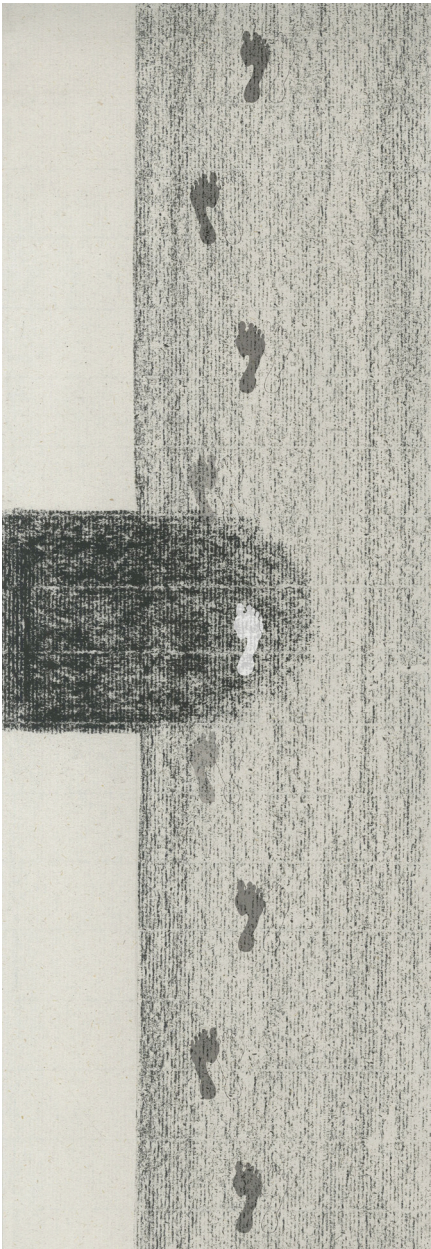
"There is another sense specifically for being-in-something; it is a sense that might be called 'mood.' A mood contributes to sensing where we are. By feeling our own presence, we feel the space in which we are present..We sense what kind of space surrounds us. We sense its atmosphere"
-Gernot Böhme.
Atmosphere as the subject matter of architecture

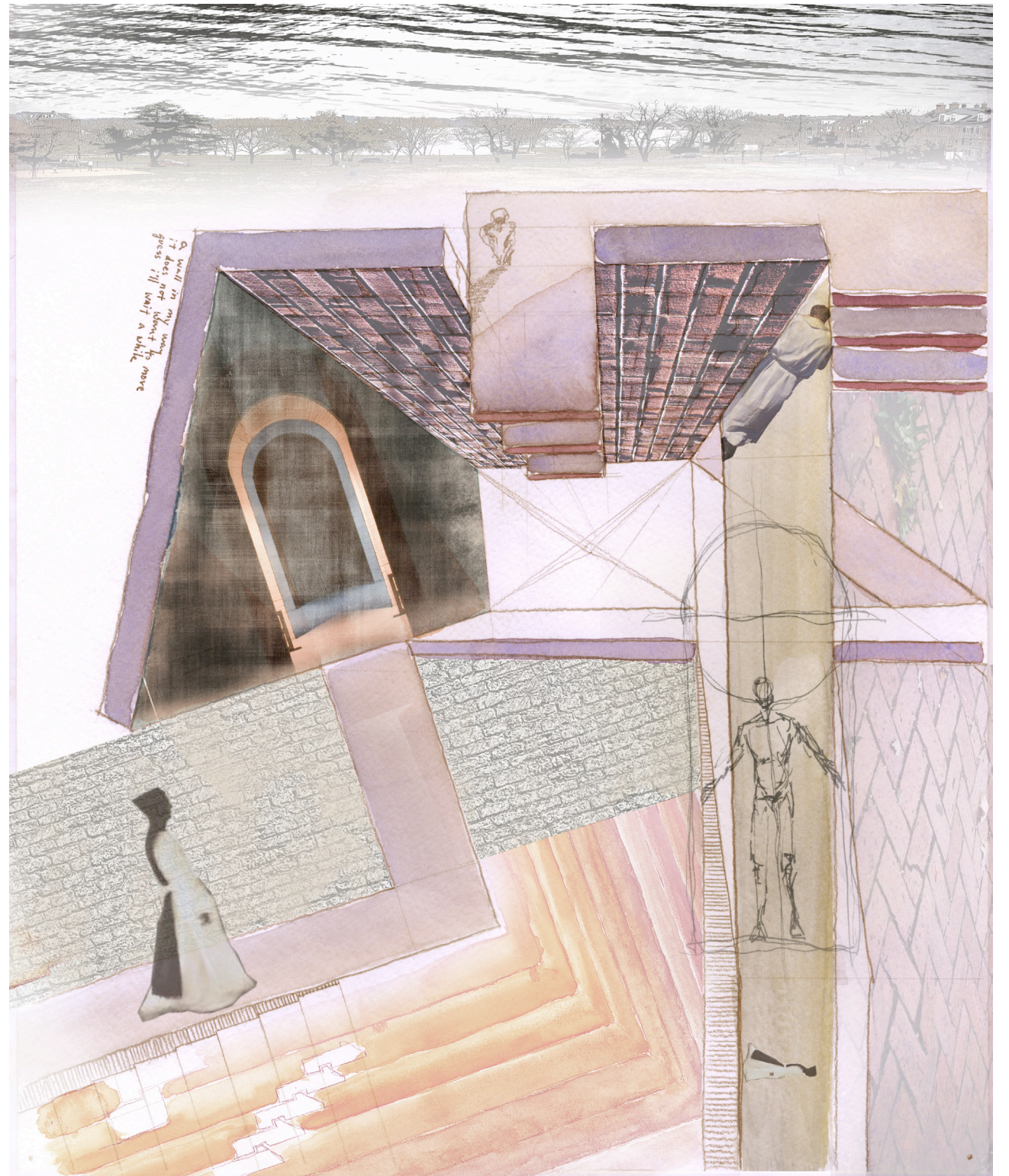




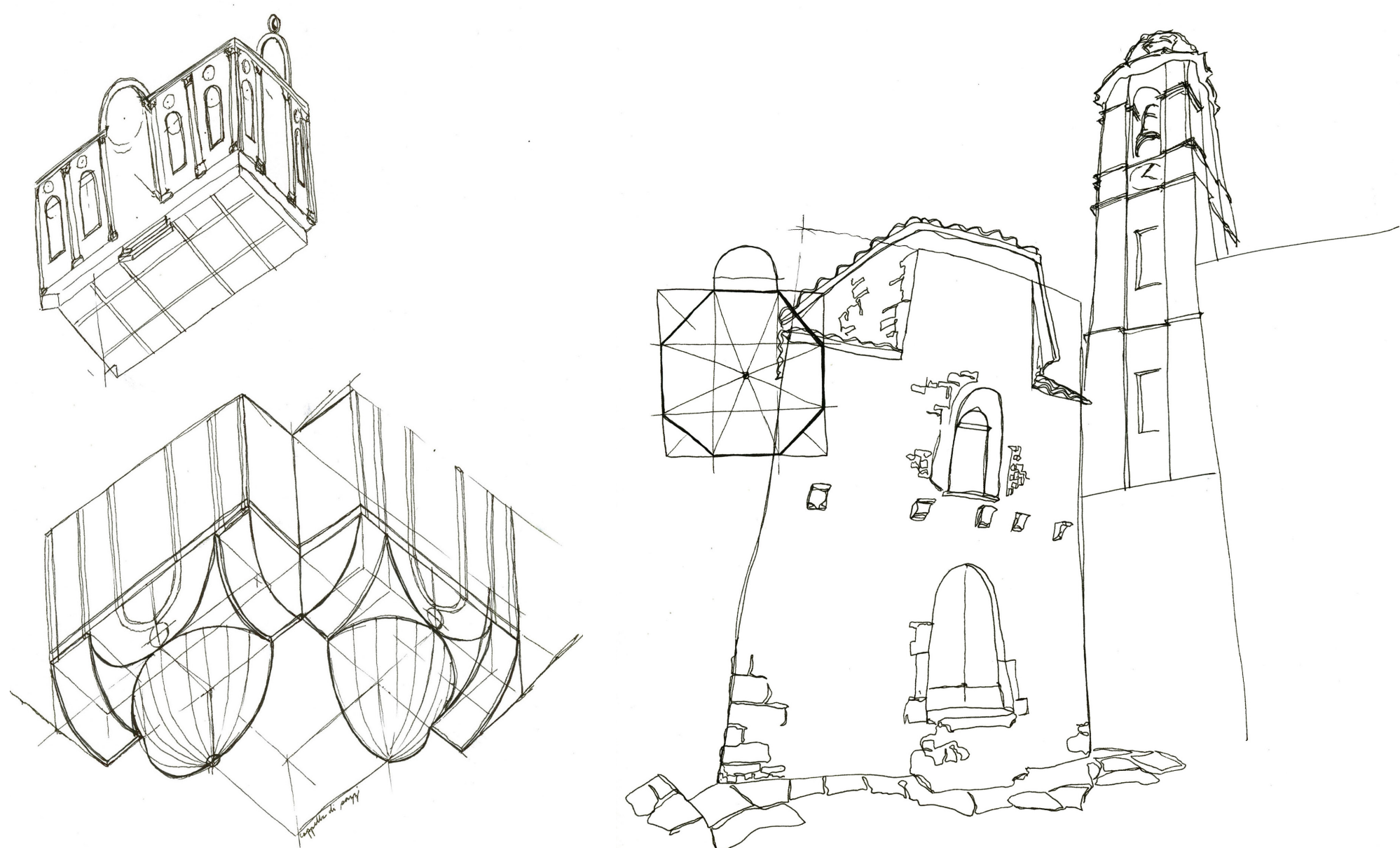




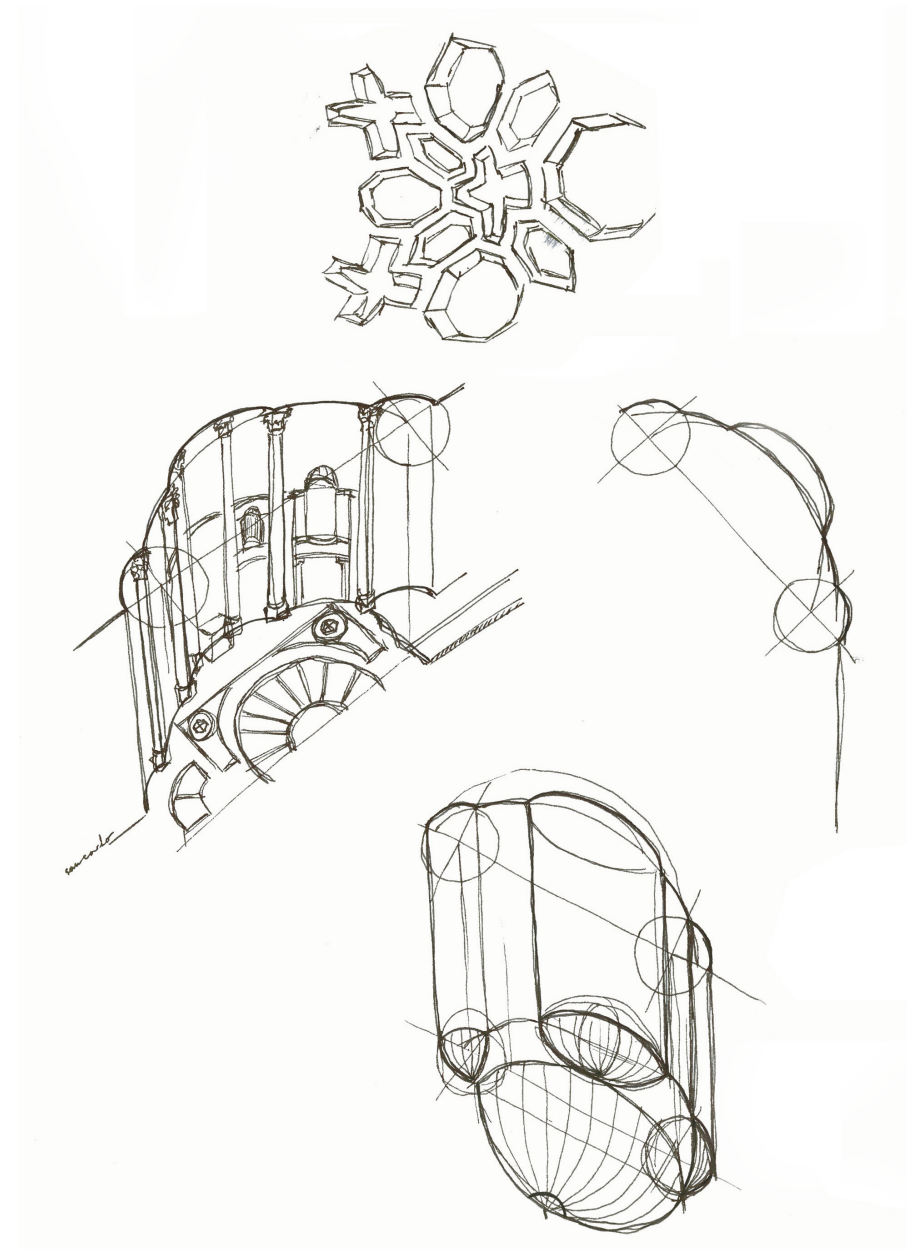
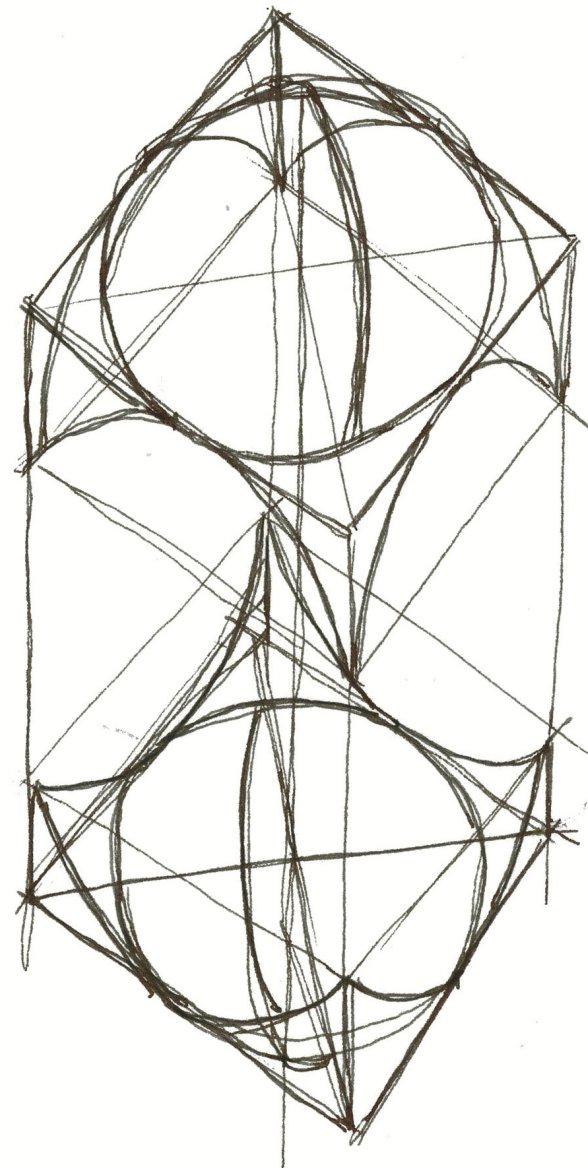




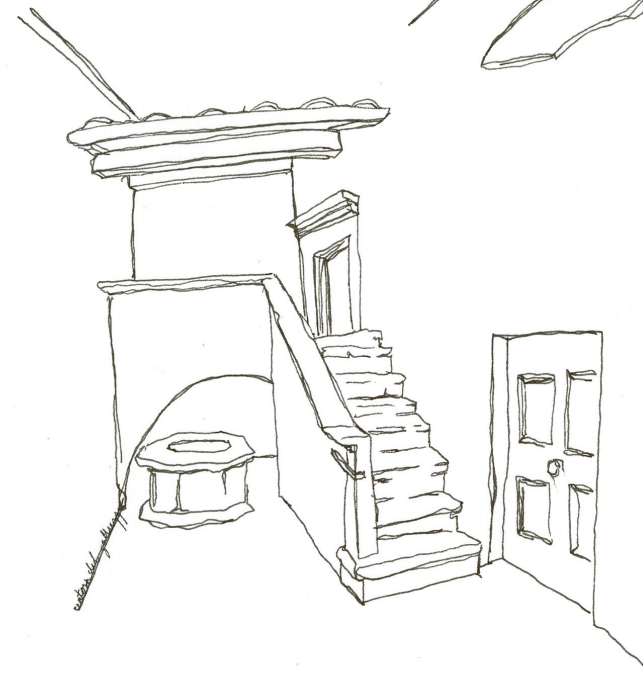
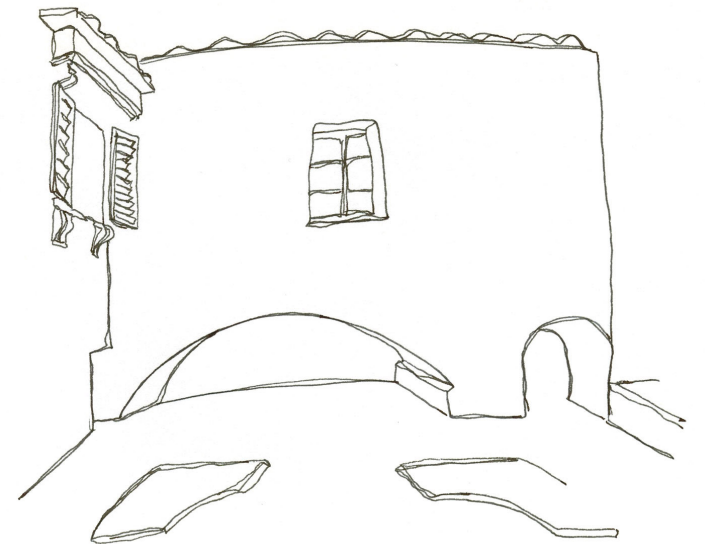
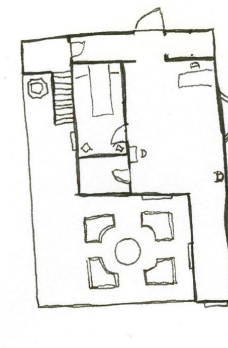
It will be my way to move
It does not seem to
guess! It will wait a while



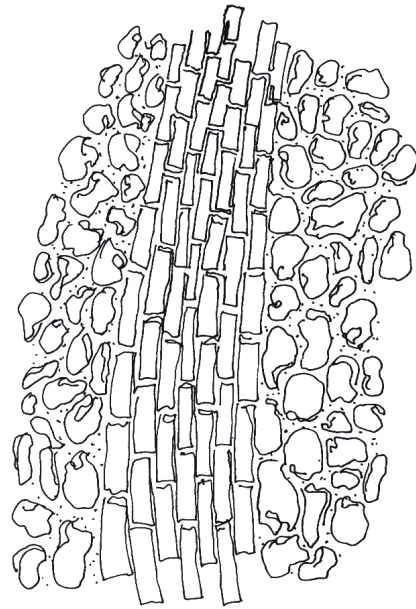
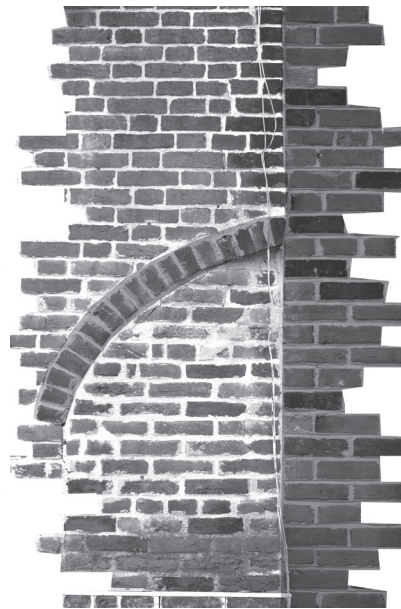
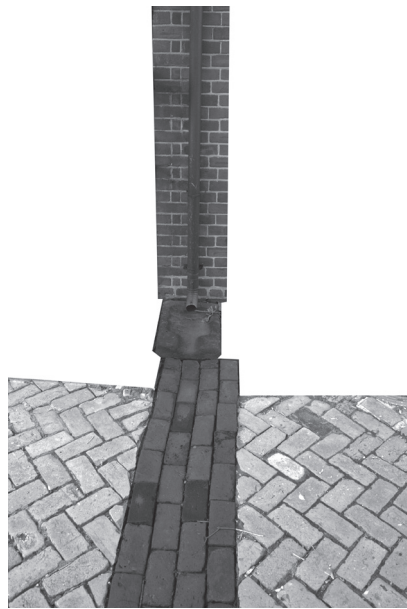
capella de pazzi | riva san vitale battistero



basilica di san clemente | san carlo alle quattro fontane



santa croce | monk's cell at certosa del galluzzo

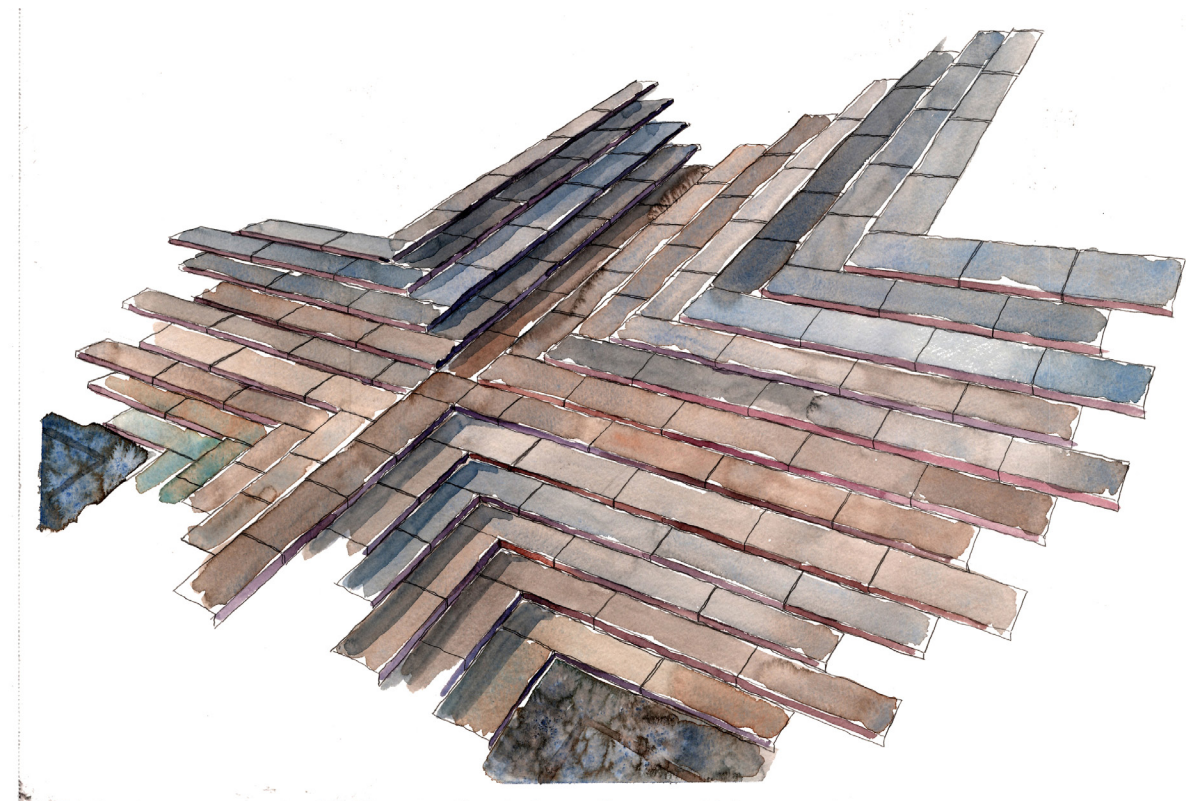


In 1115 AD, St. Bernard of Clairvaux left Citeaux Abbey to found a monastery with a renewed, strict observance of Saint Benedict's Rule. Located along a tributary in the secluded southern countryside of France, stripped of architectural ornament and minimal material possessions, Clairvaux and its inhabitants were to be a new exemplar of monastic life. Upon founding Clairvaux, Bernard instructed the twenty two monks that followed to, *"Leave your body at the gate, only your soul can enter here."*

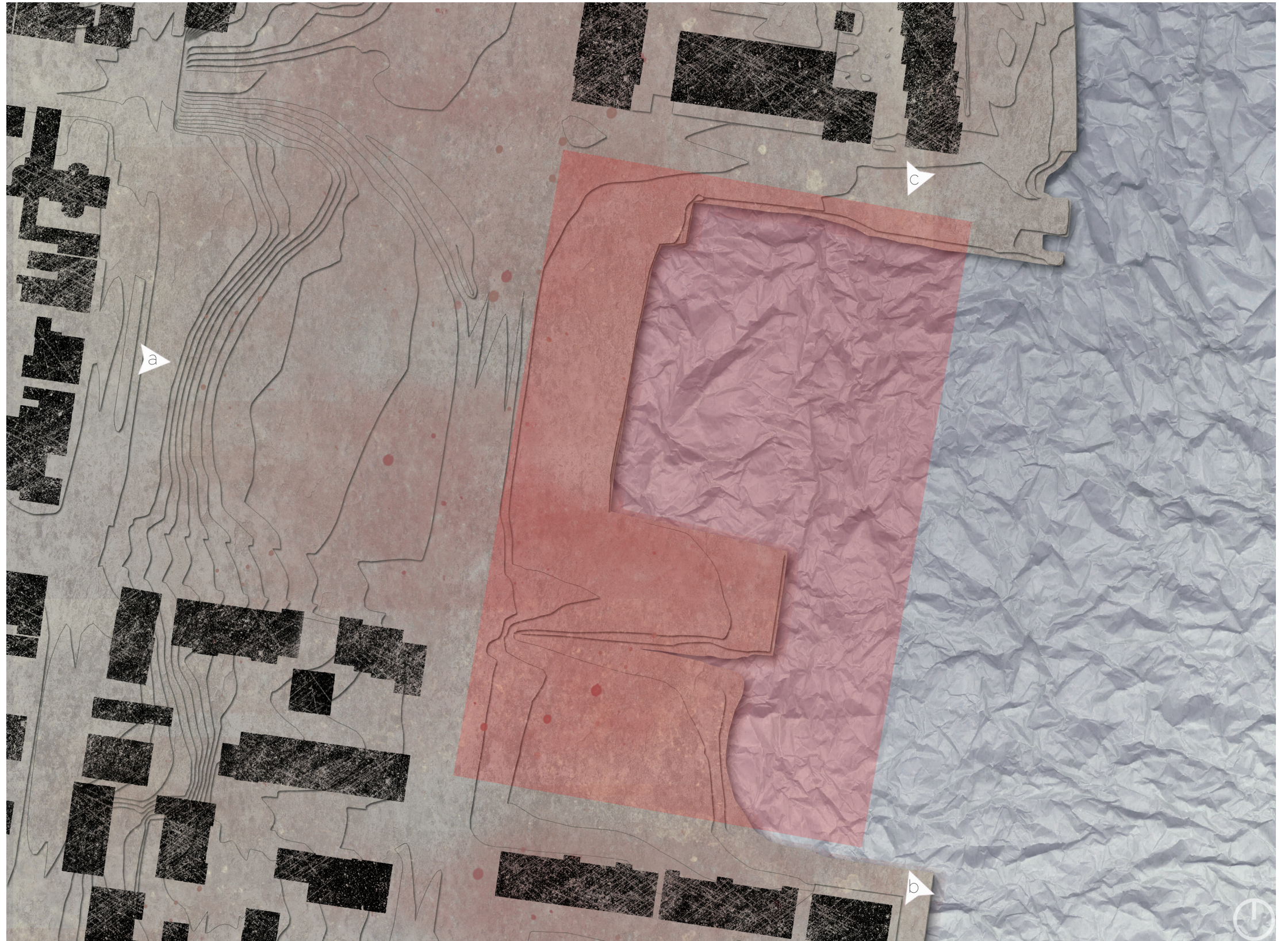
Cistercian Monastery on the Potomac

In the western monastic tradition, proximity to water holds biblical and spiritual significance, and in the pre-industrial era, it was a necessity of secluded monastic settlements. While the Potomac is not potable water, it is a tidal body that provides a meaningful role to the monstary as a celestial time-keeper. The rhythm of the tide mirrors the ritual of daily monastic life, it suggests the cycle of life and death, the rejuvenation of the baptismal rite, and it symbolizes the primordial genesis and our transcendence to a devout life.

Located in a residential corner of Old Town Alexandria, the site and surrounding area currently known as Windmill Hill Park is the former location of a refugee camp for runaway slaves during the Civil War, a commercial ship yard, and most recently, a private marina. What remains is a small park adjacent to an excavated shoreline that extends almost an entire block into shore. The indentation of the shore and the current of the river create a natural vortex that causes the inlet to collect debris and garbage daily. The first significant decision to remake the shoreline with shallow stairs evolved into their performance as a large sieve, which then provided the daily chore of cleaning and collecting for the monks. The stairs also became an inhabitable space that records the tide thereby marking the rhythm of the monastic day.









[a]



[b]

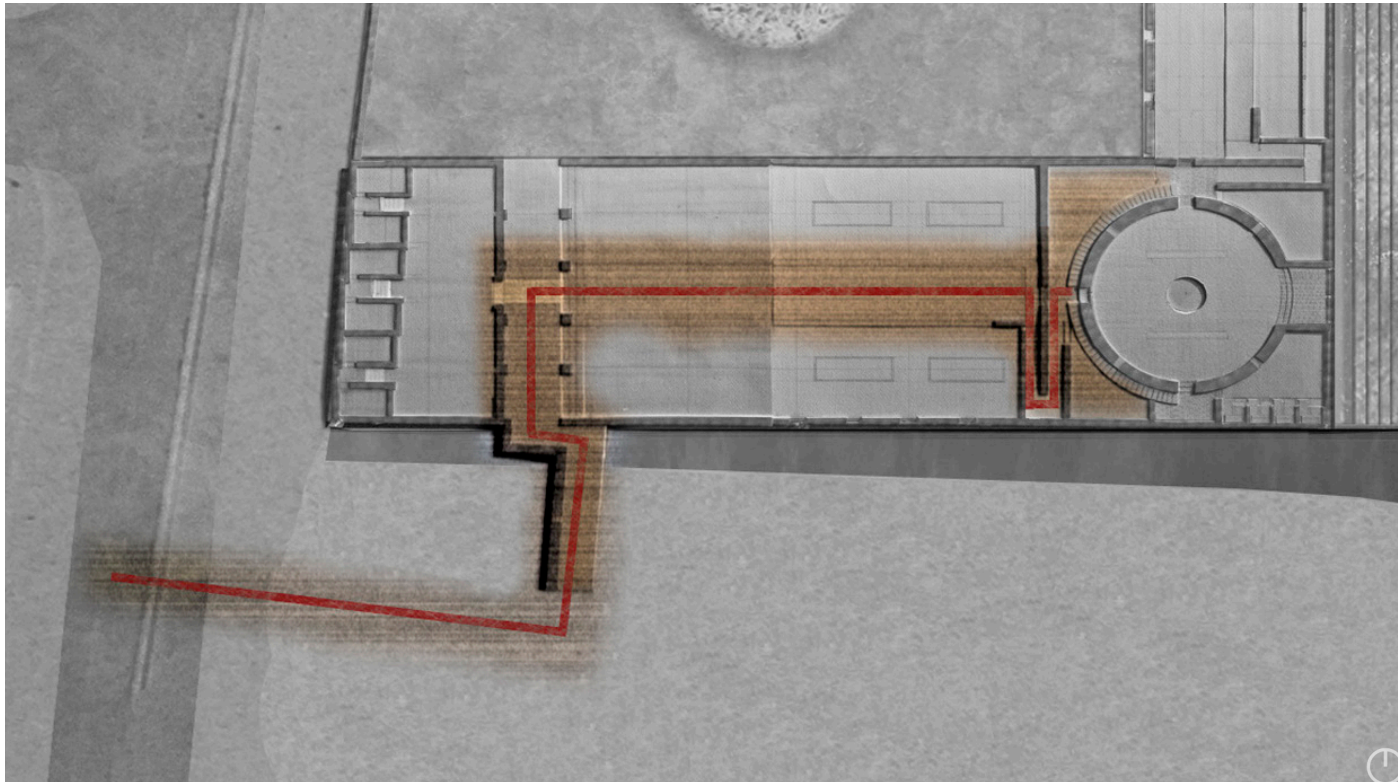


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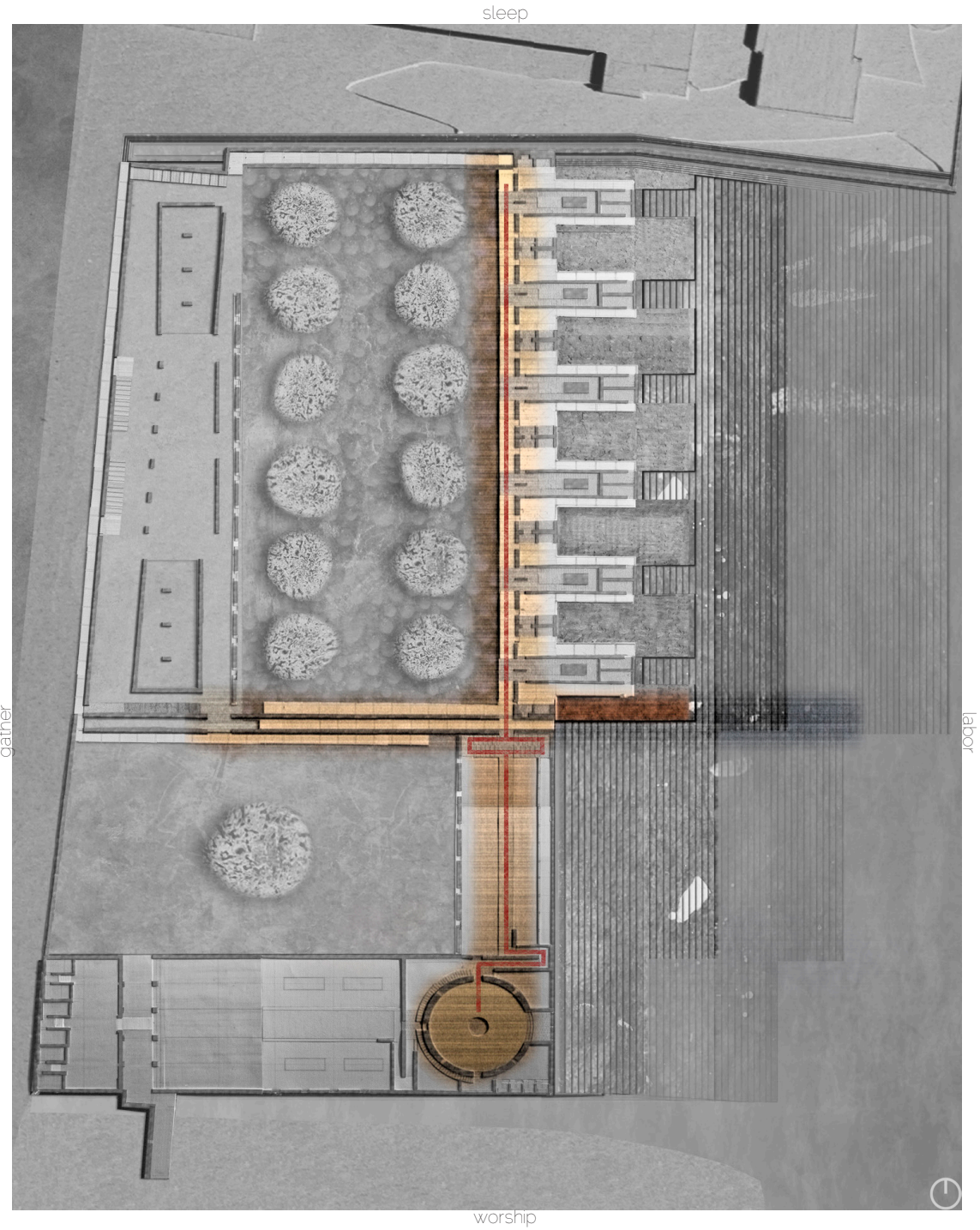


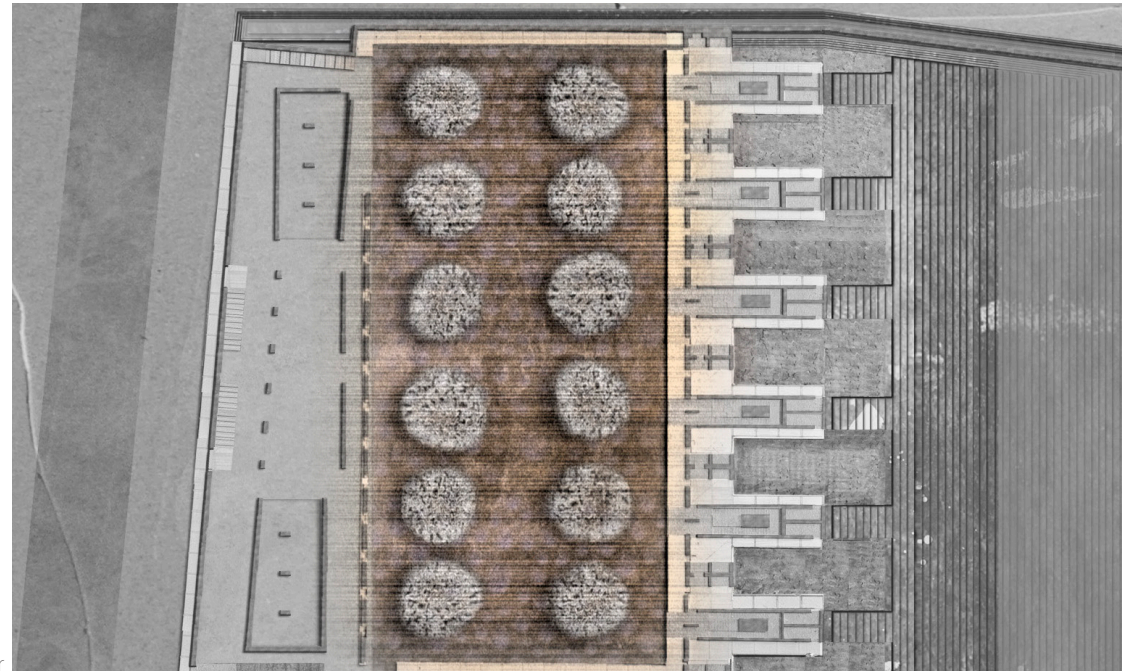


path of visitors

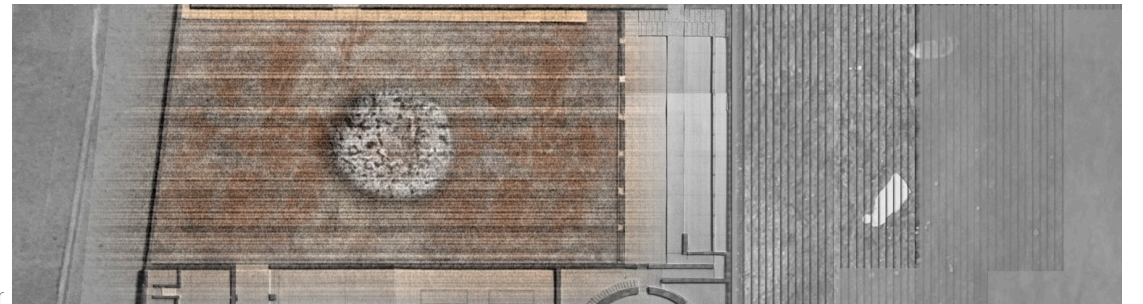


movement of monks

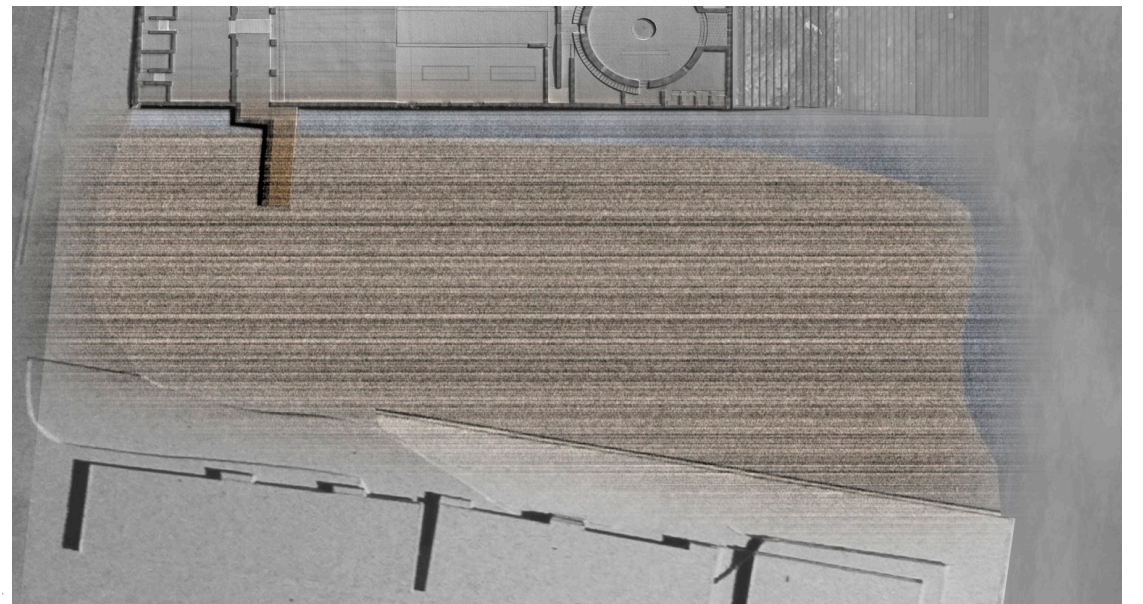




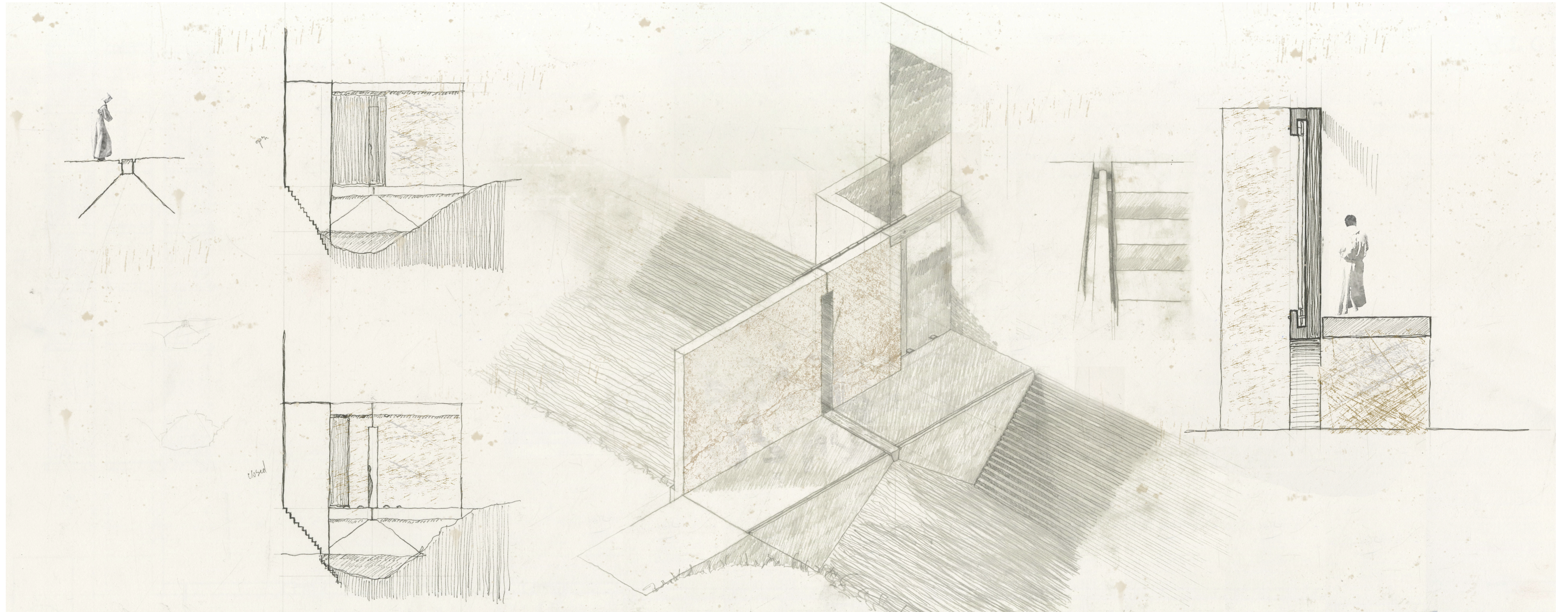
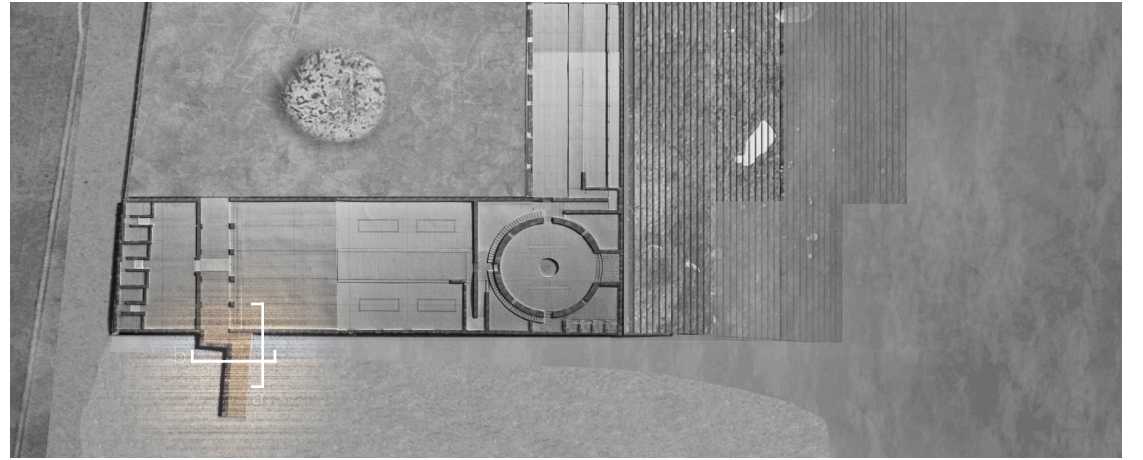
monks' cloister



visitors' cloister



public cloister

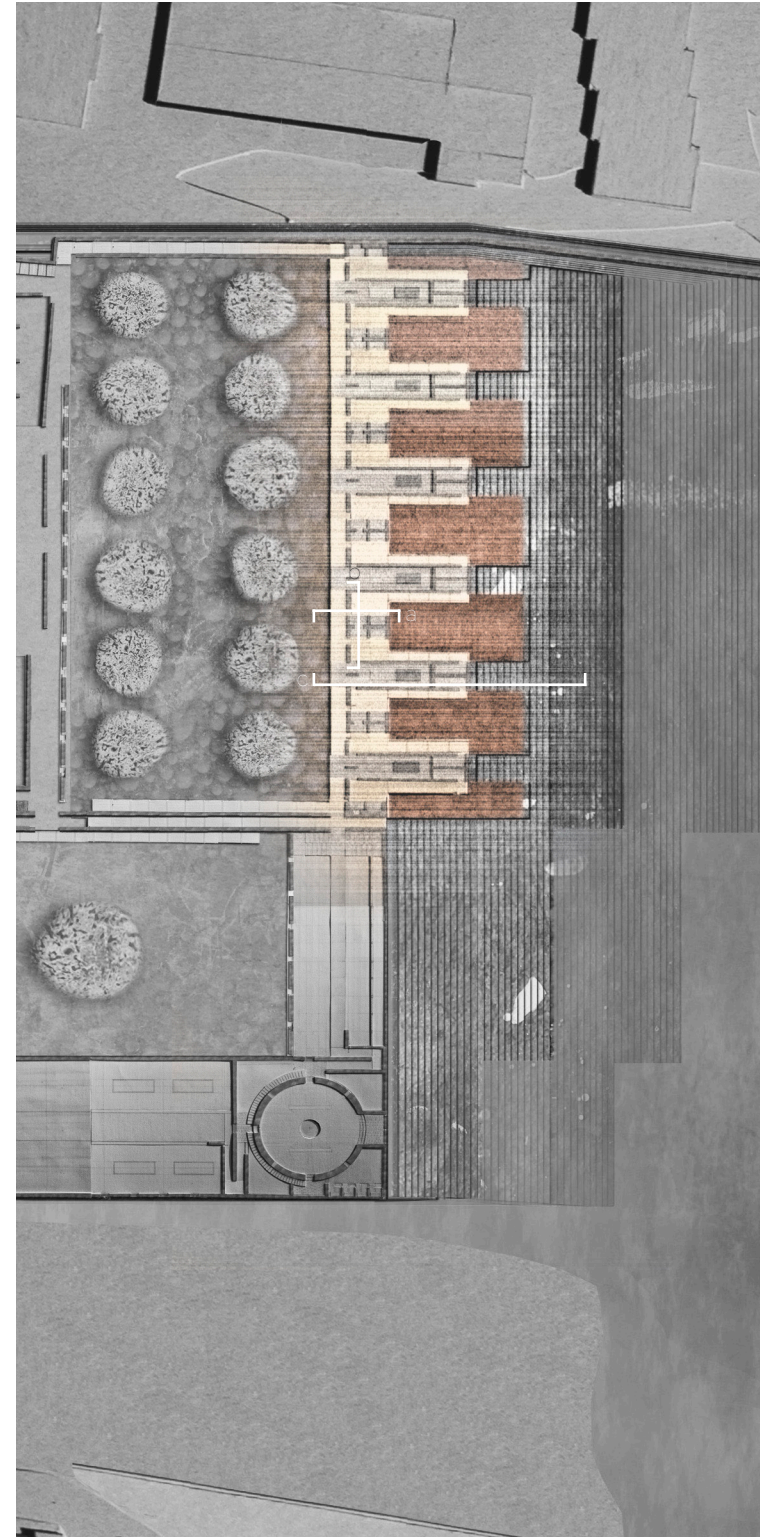
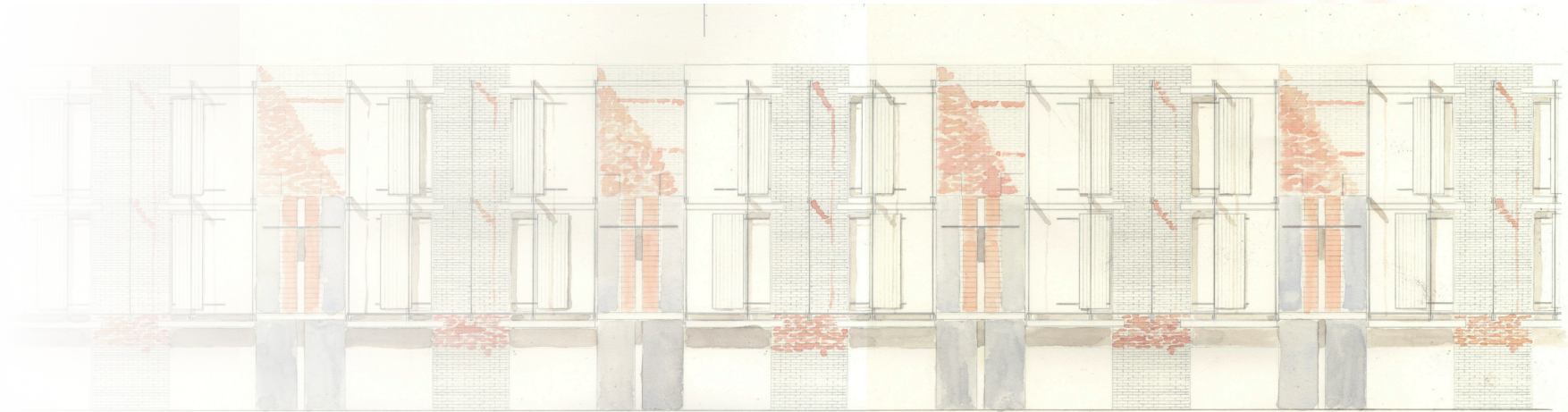
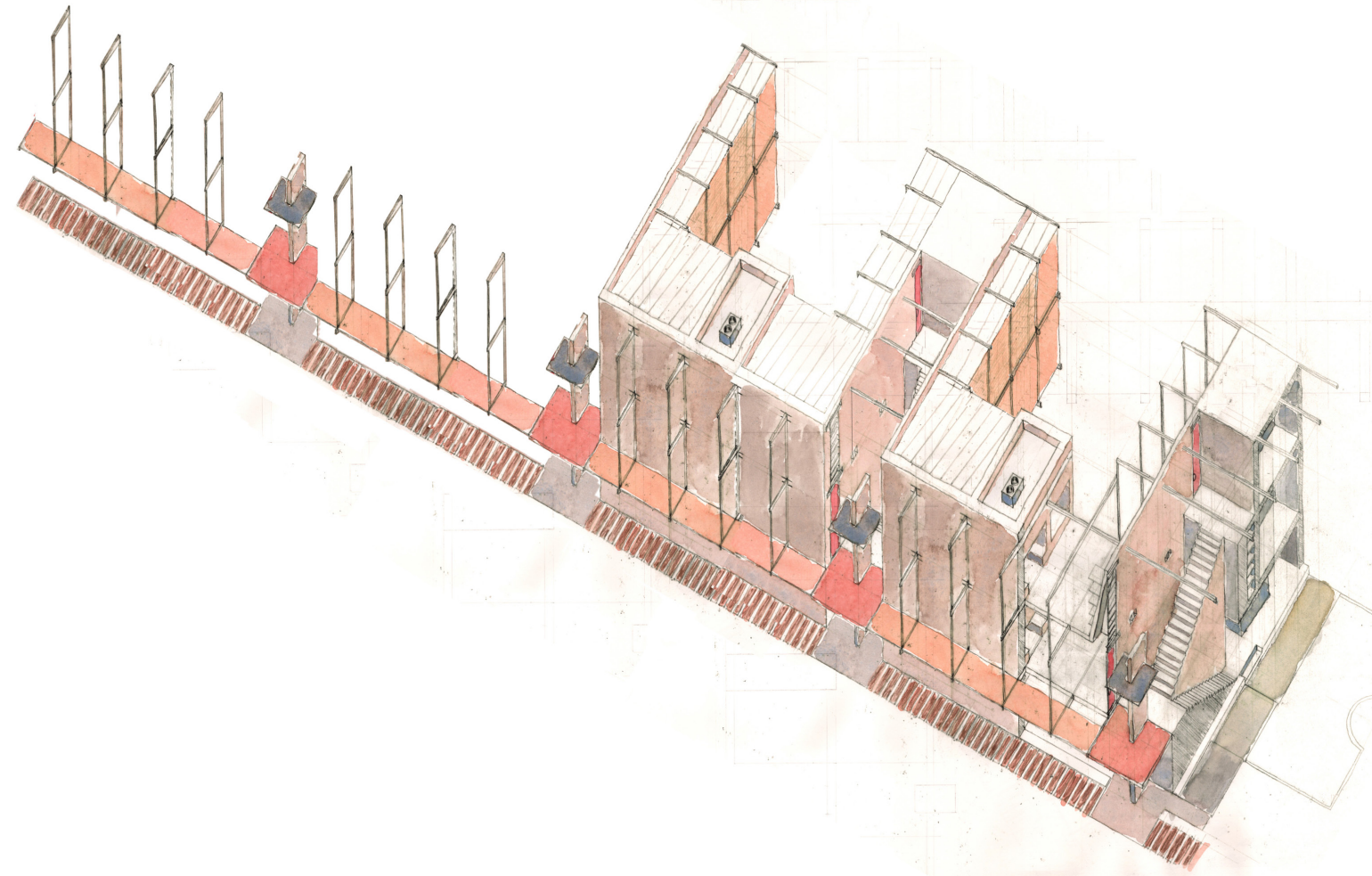


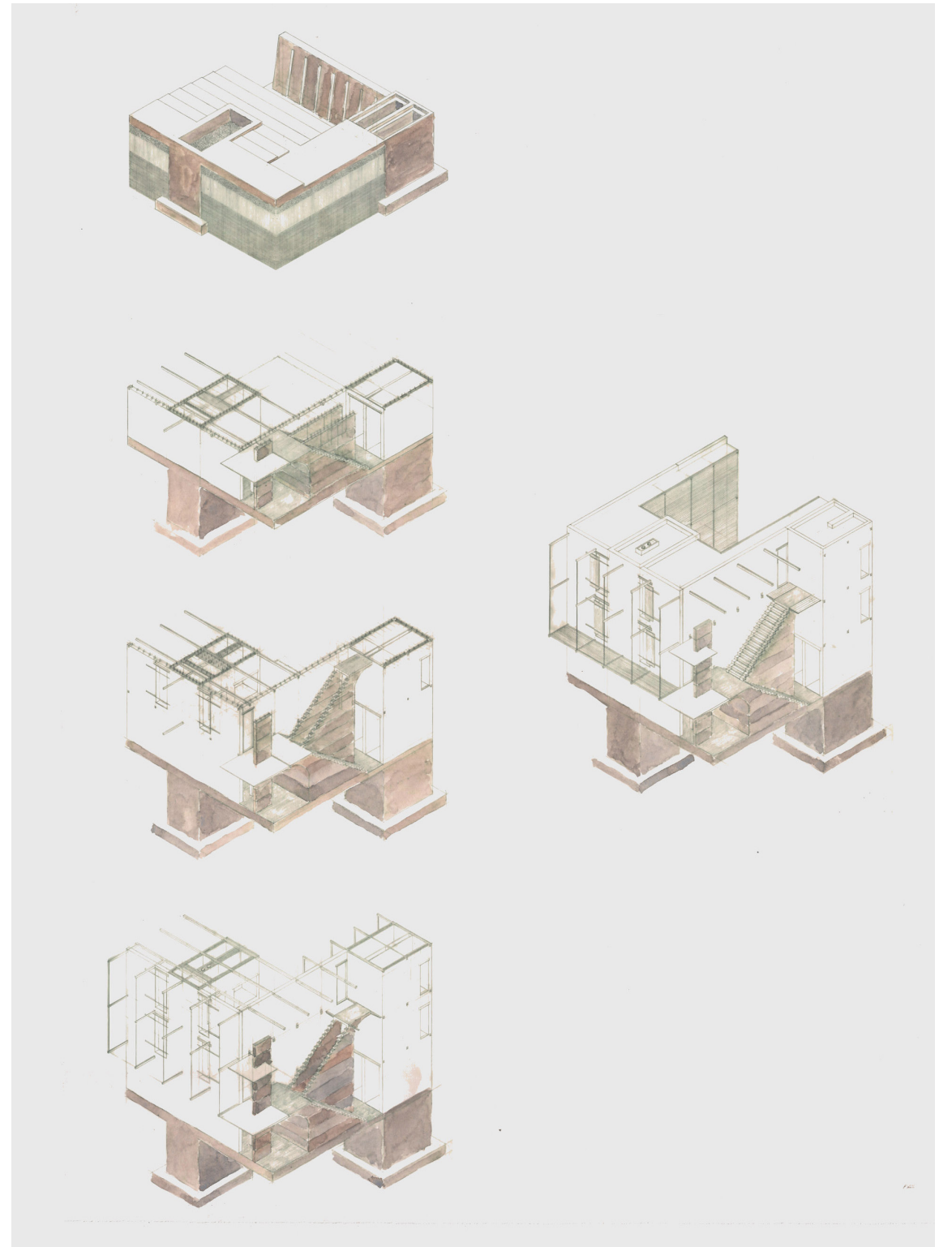


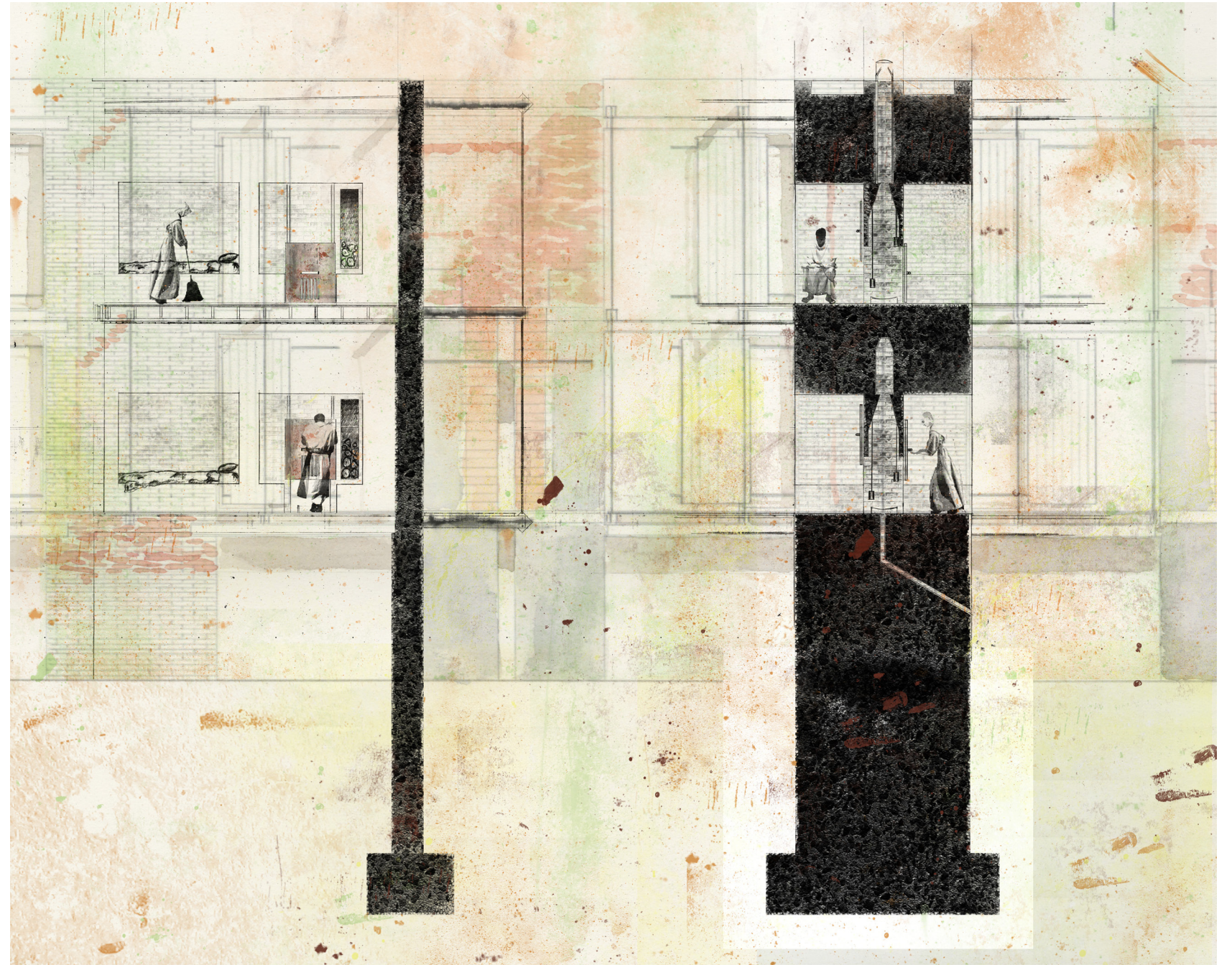
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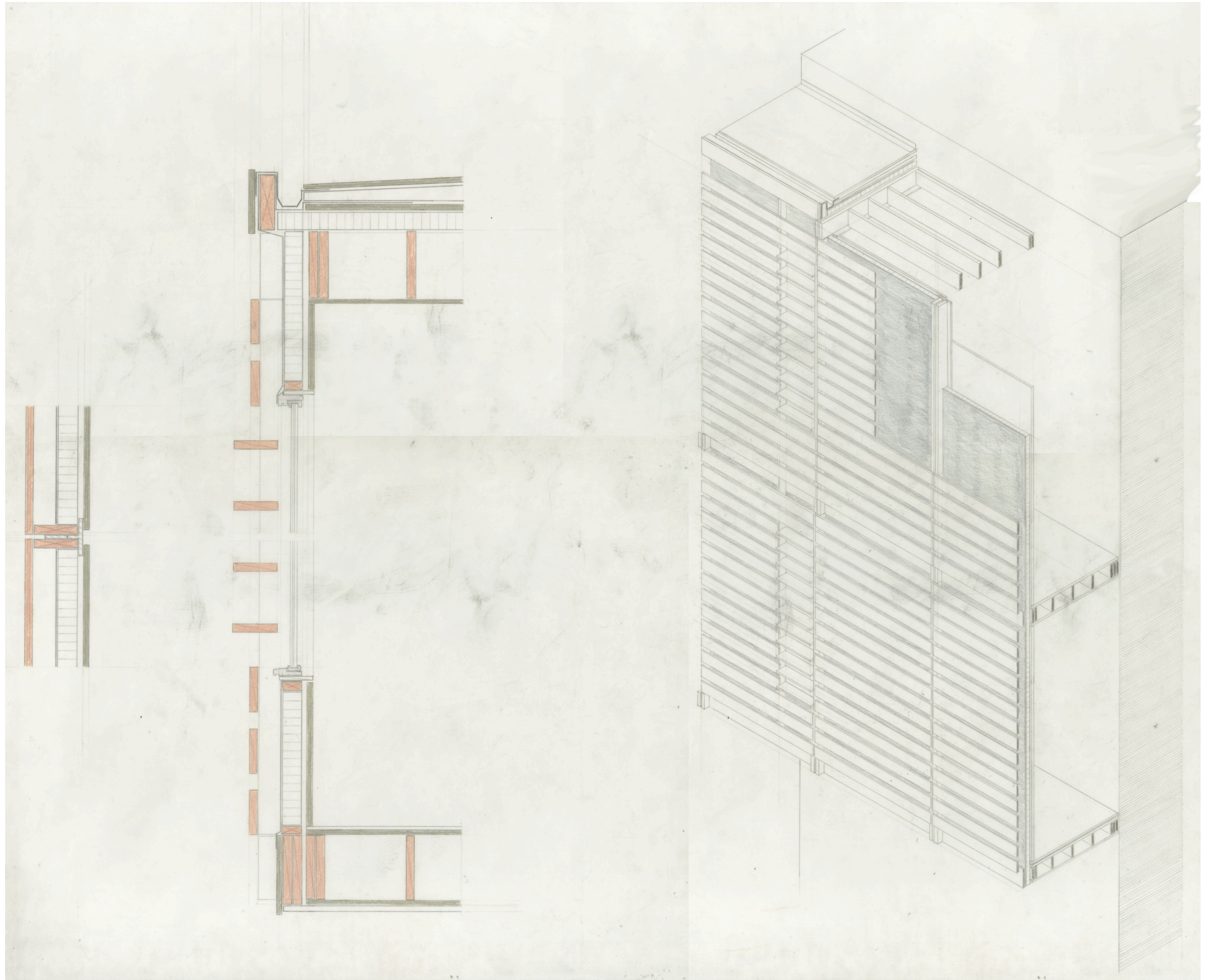
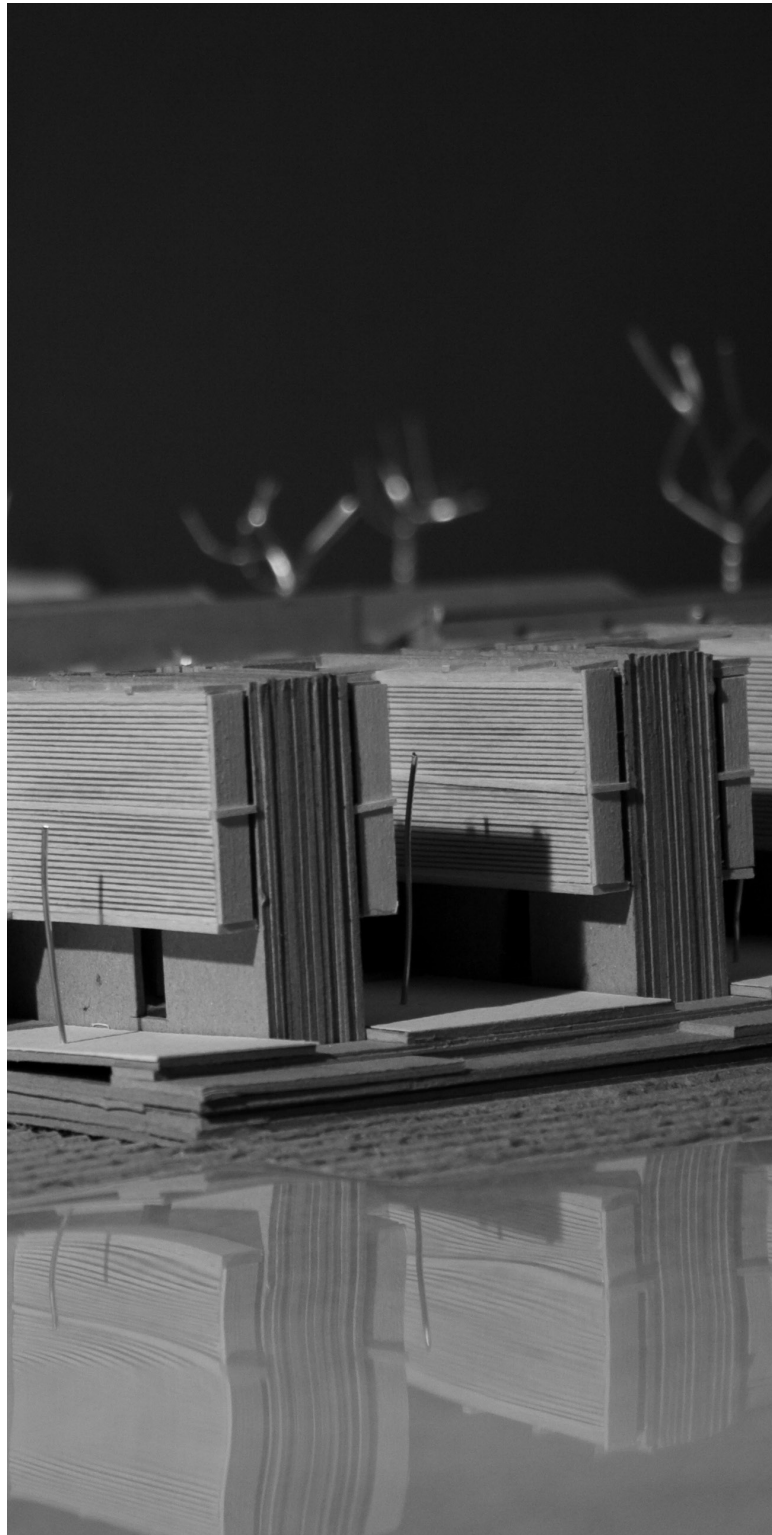


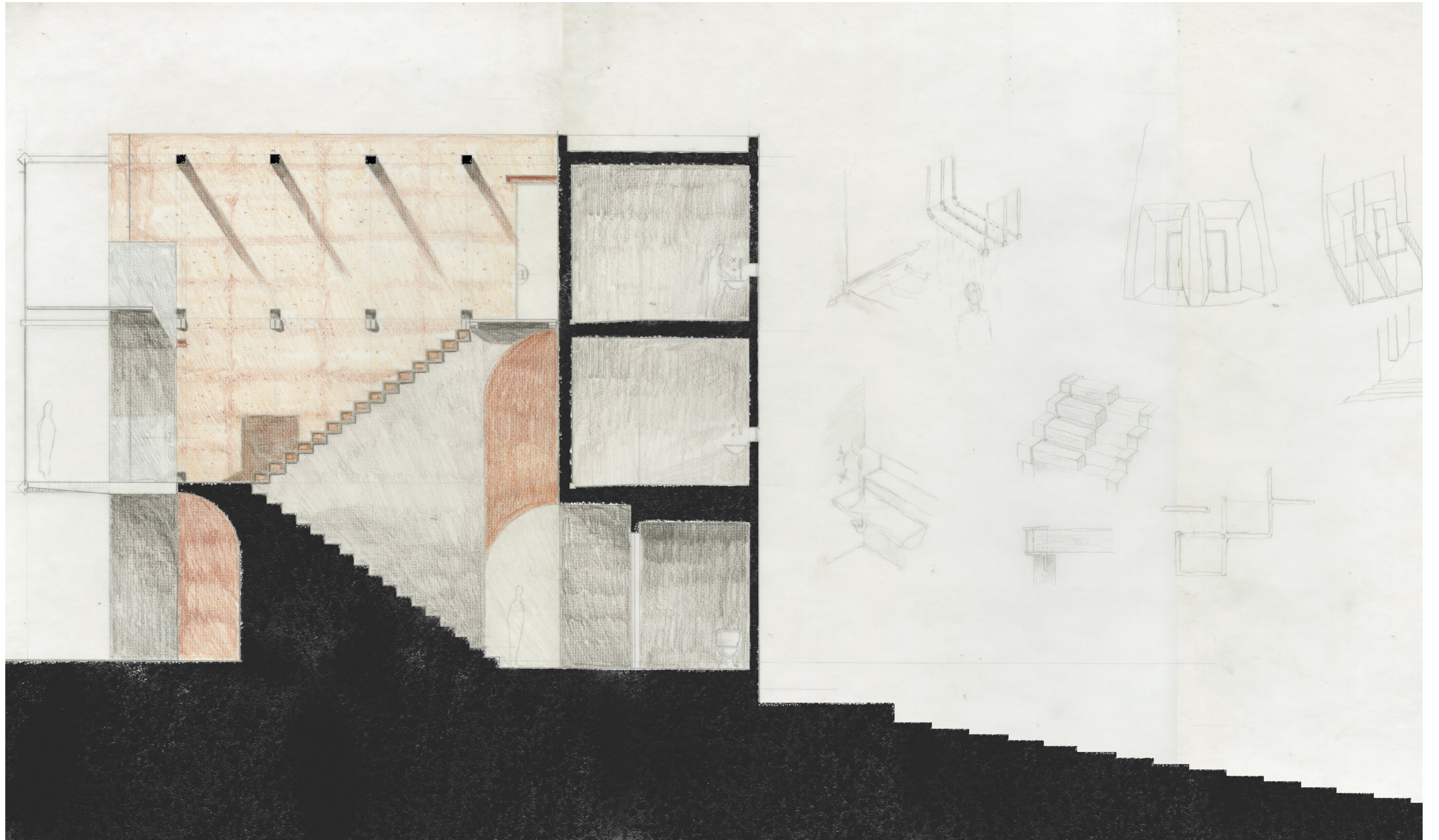


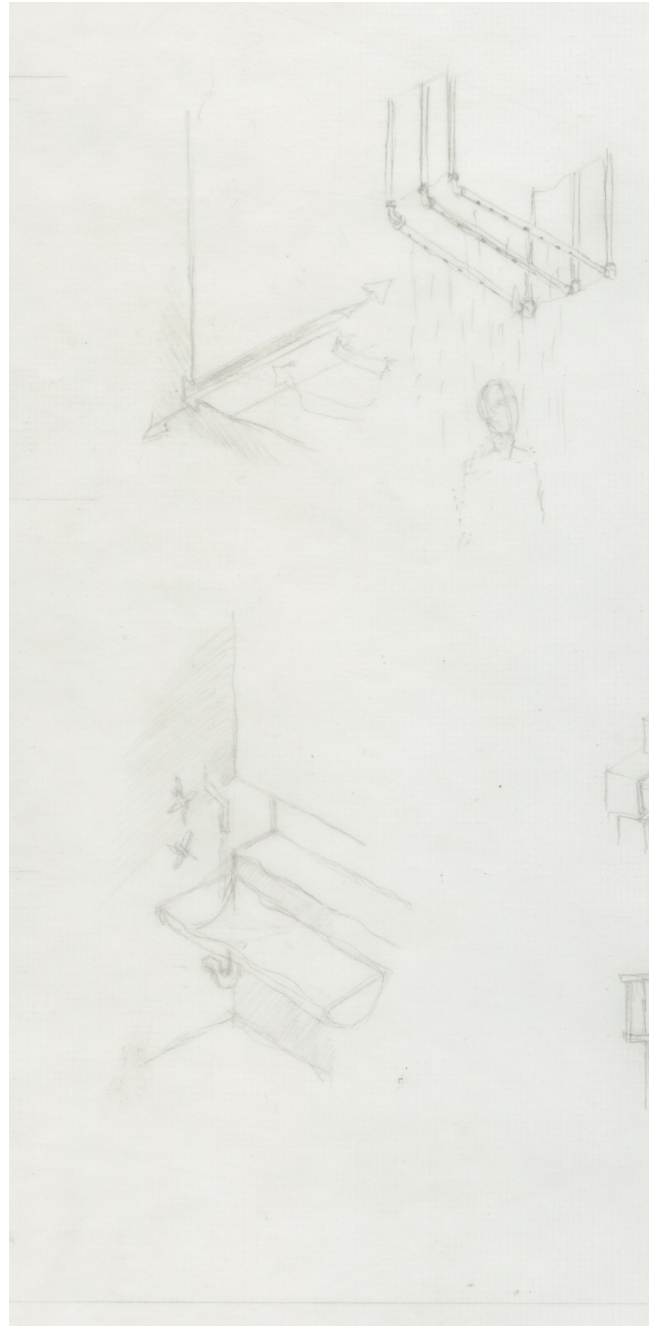
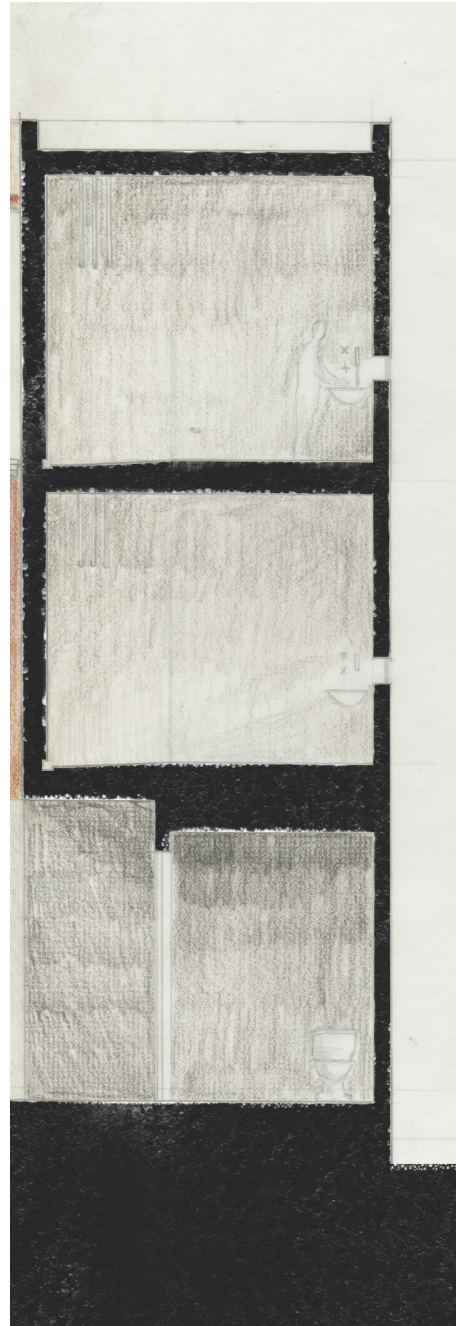
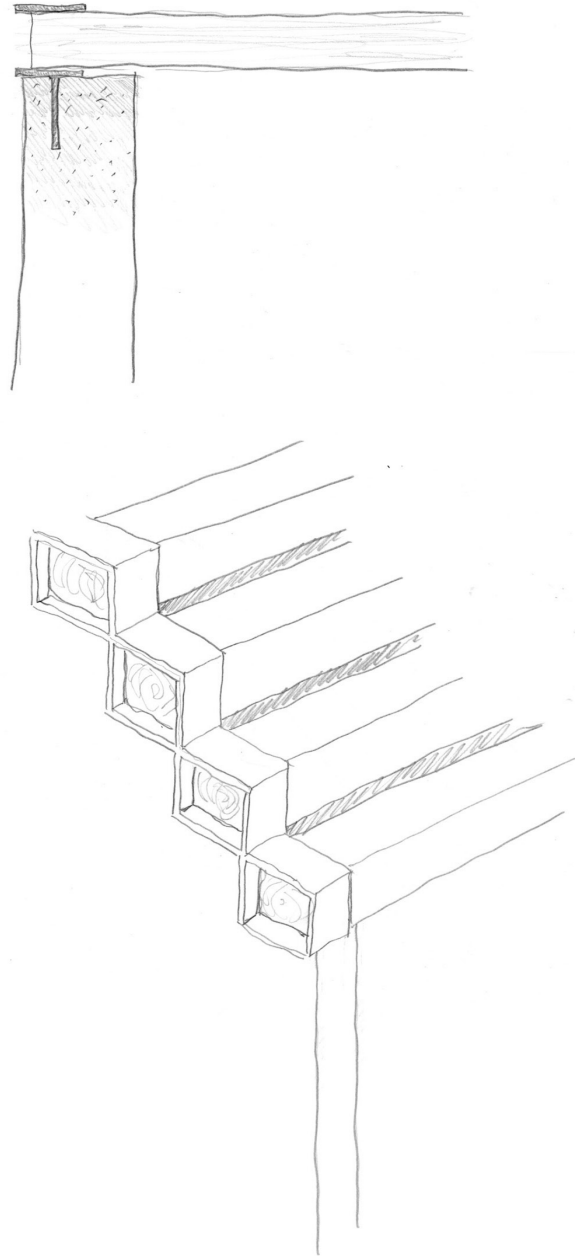


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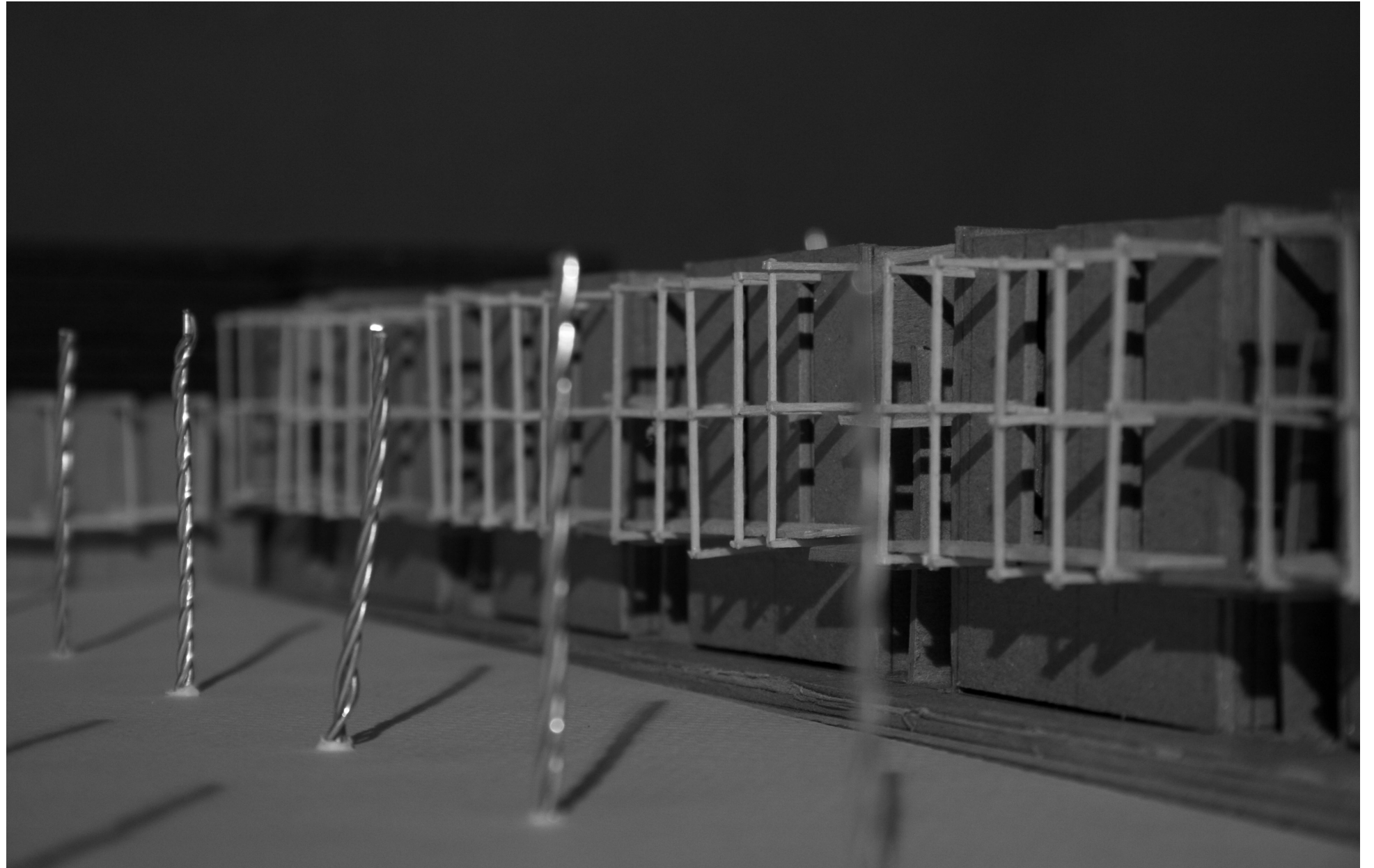
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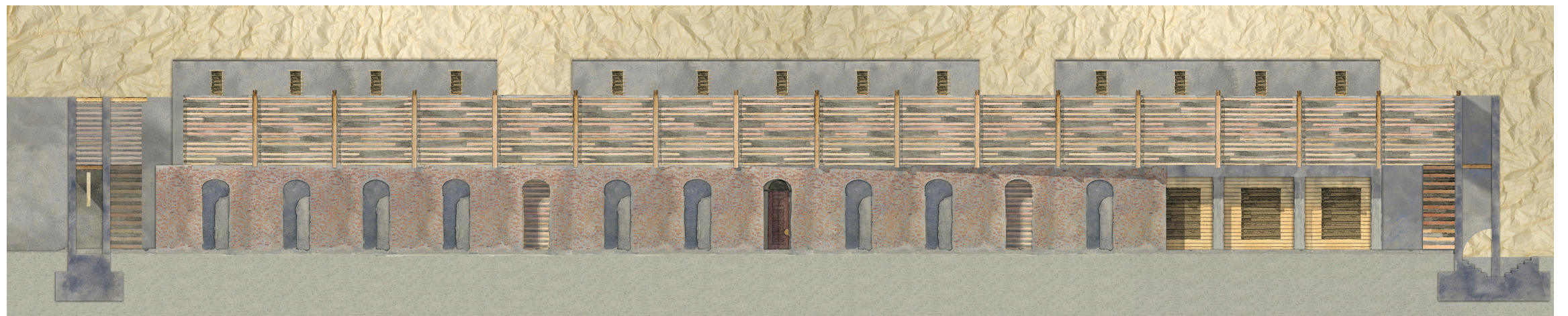
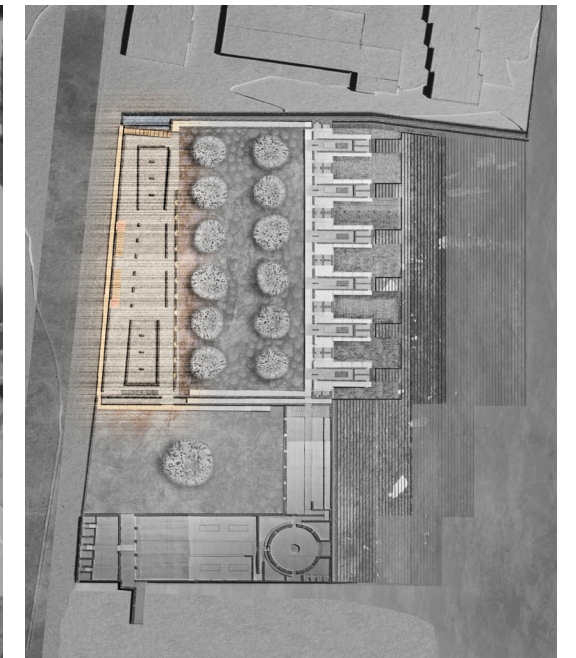


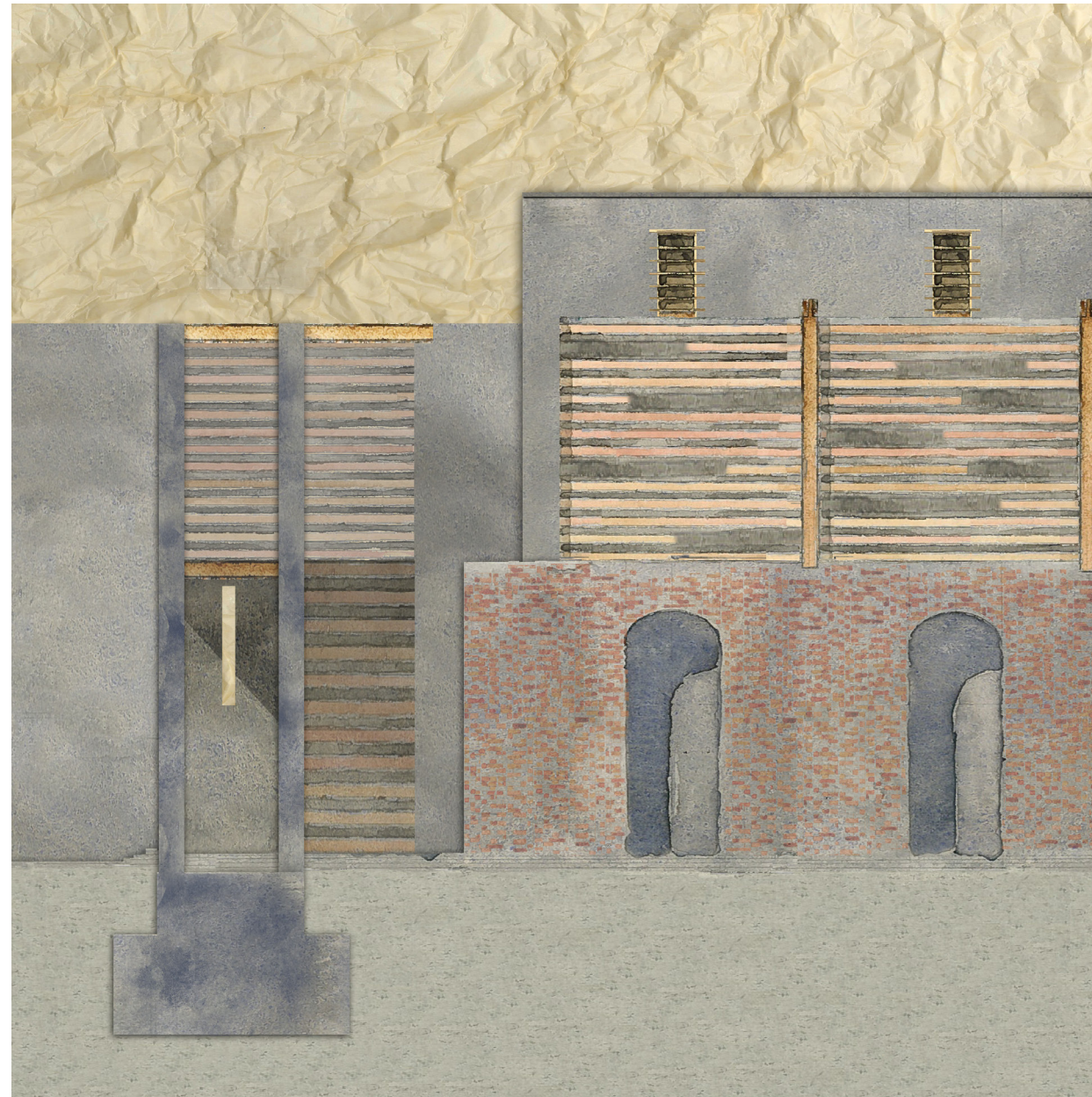


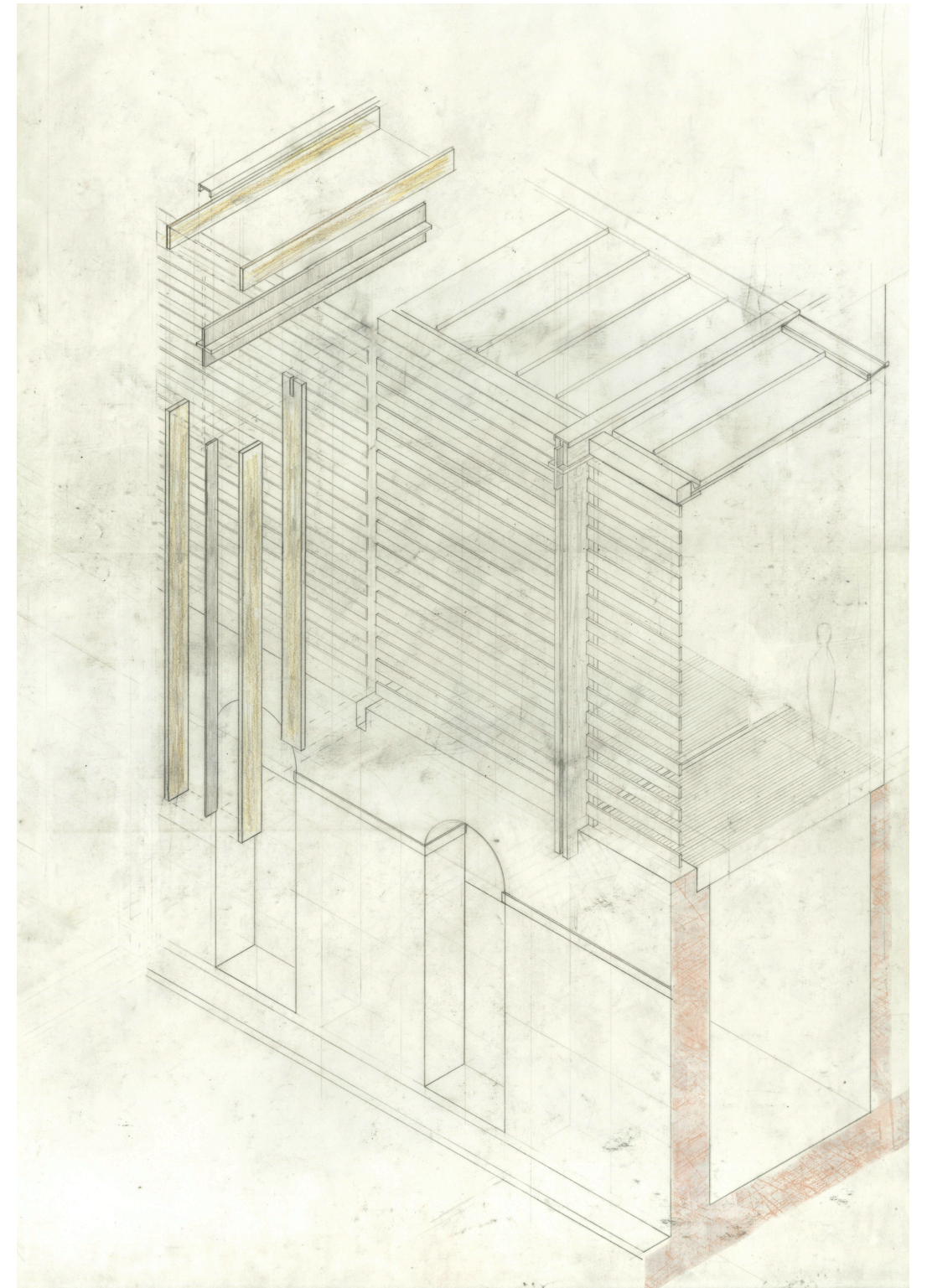
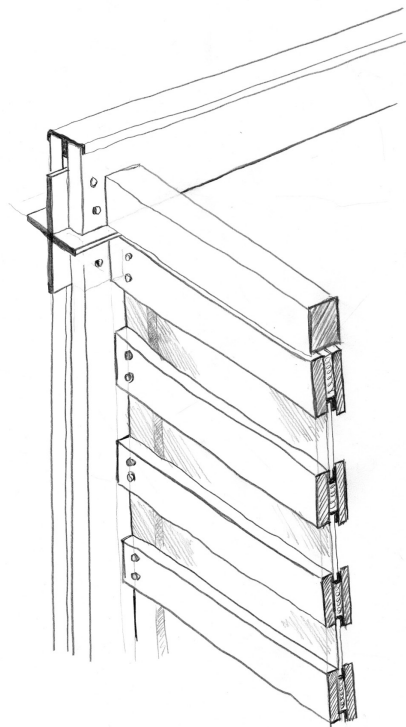




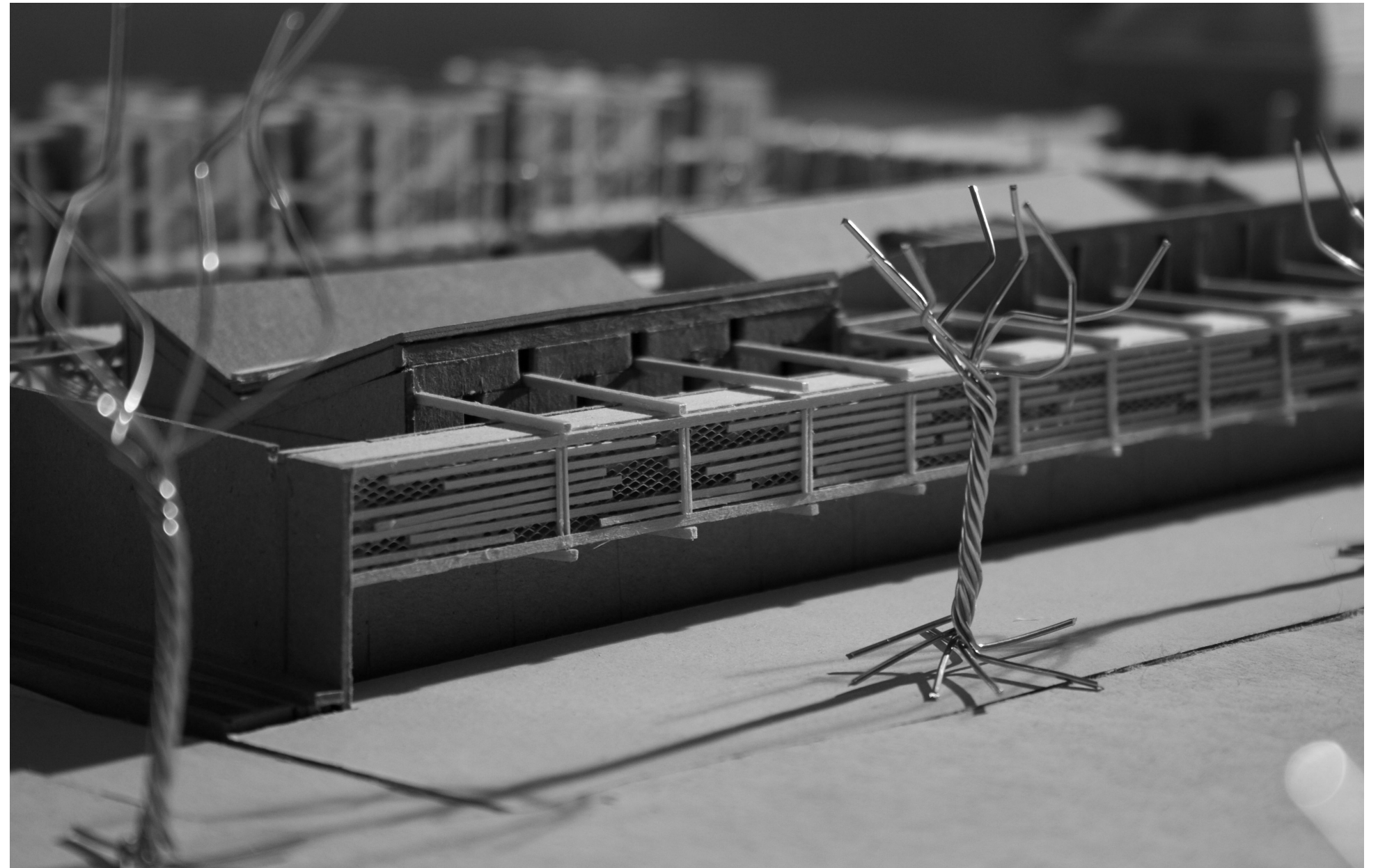


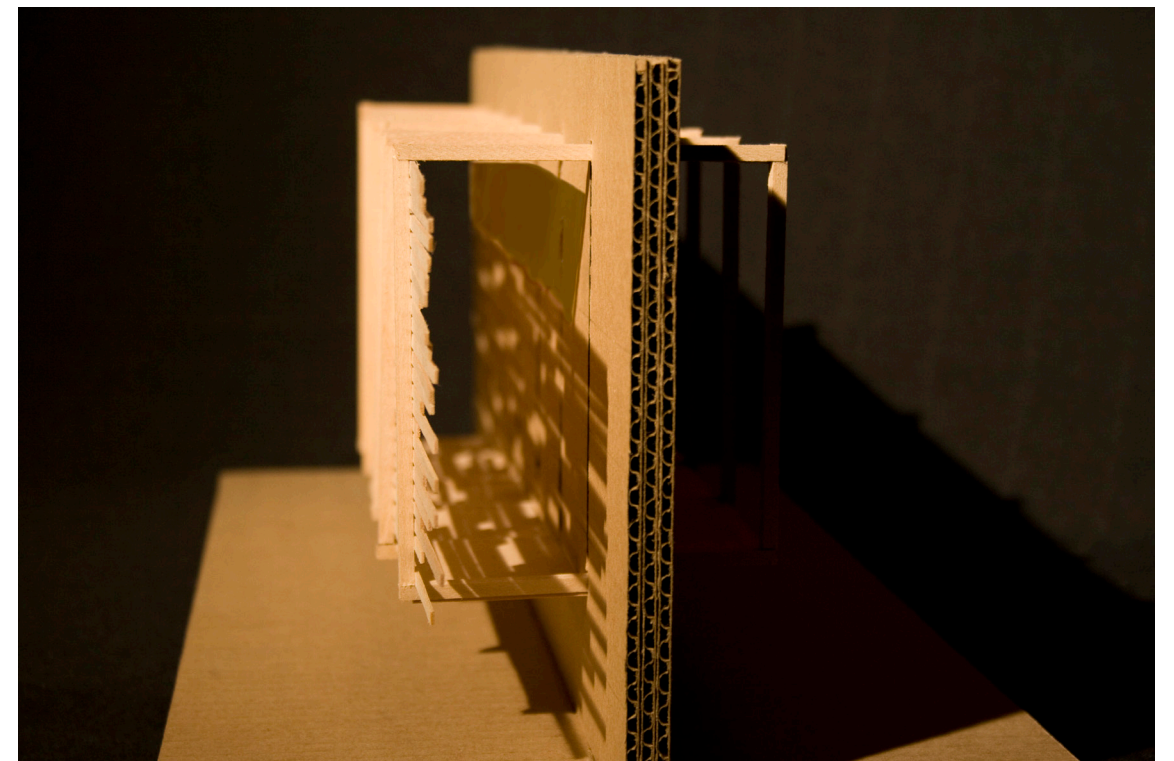


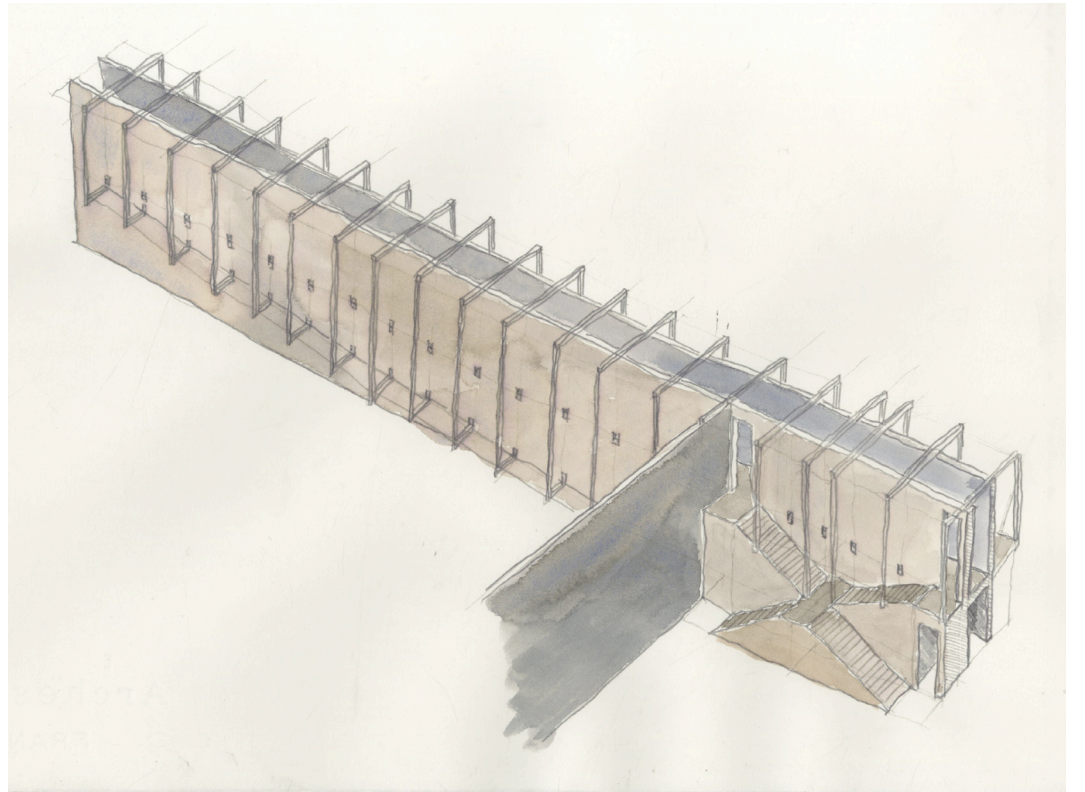
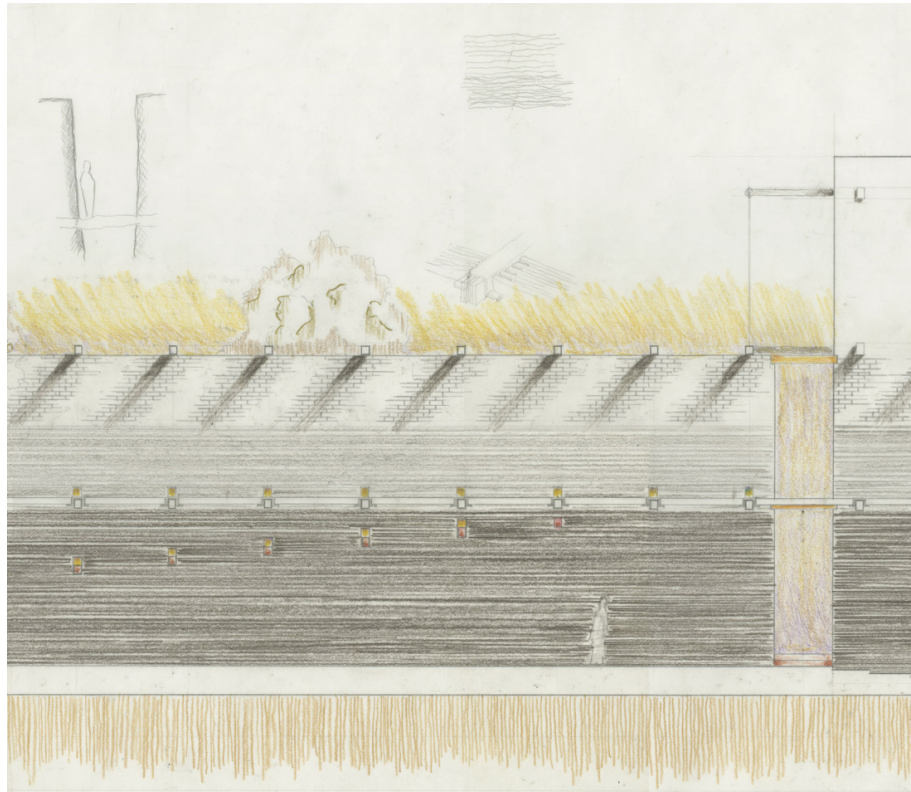


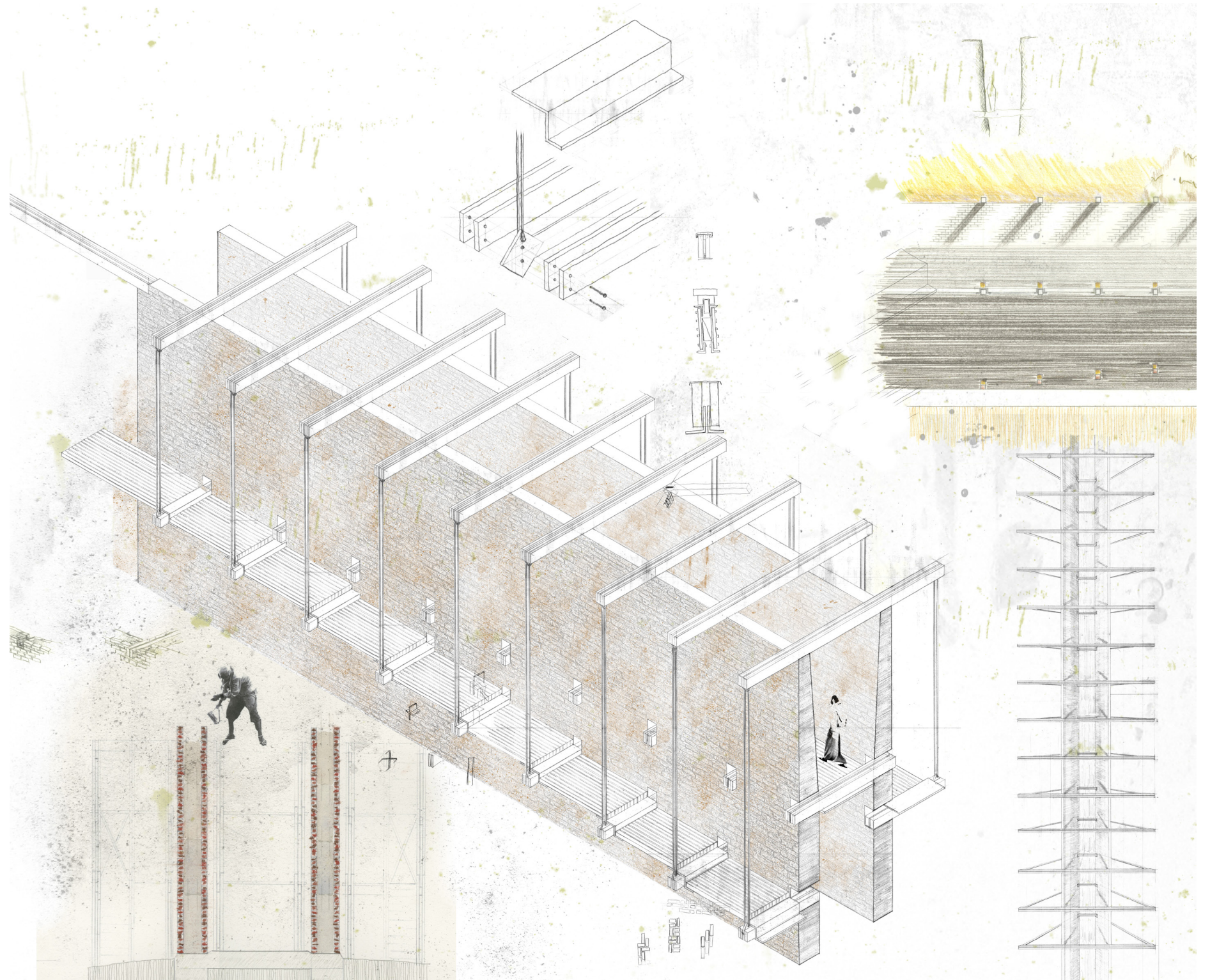


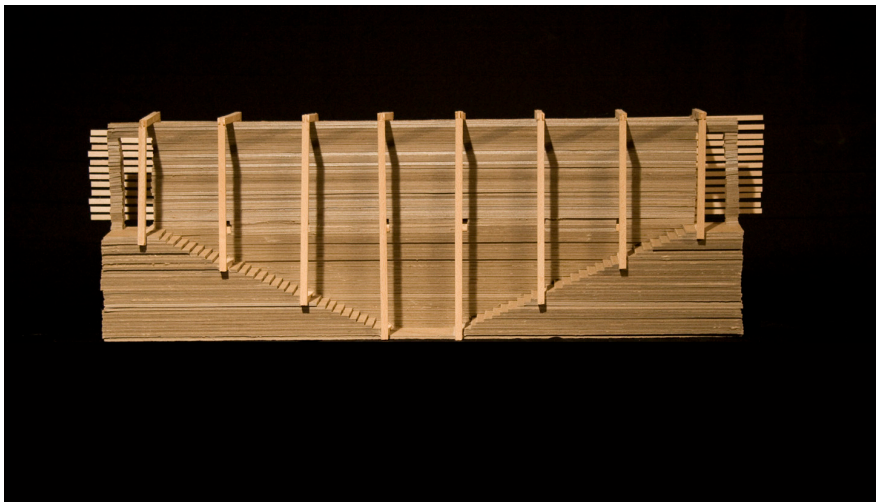
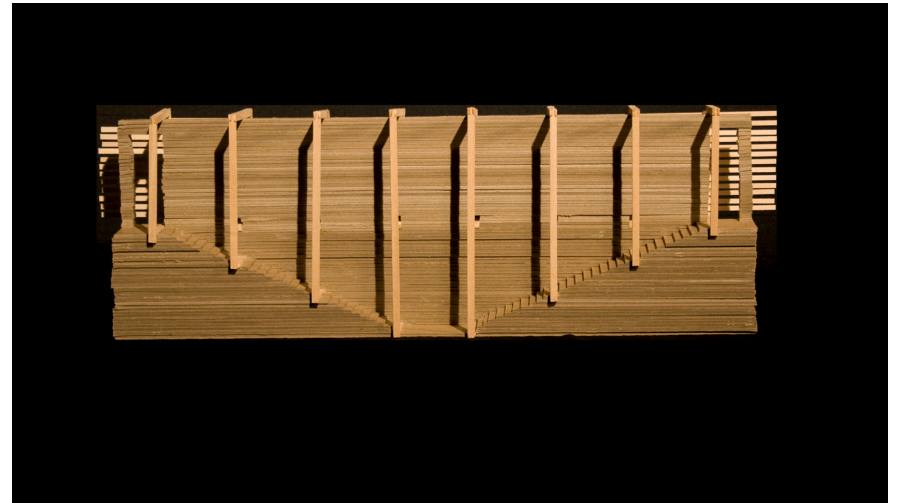
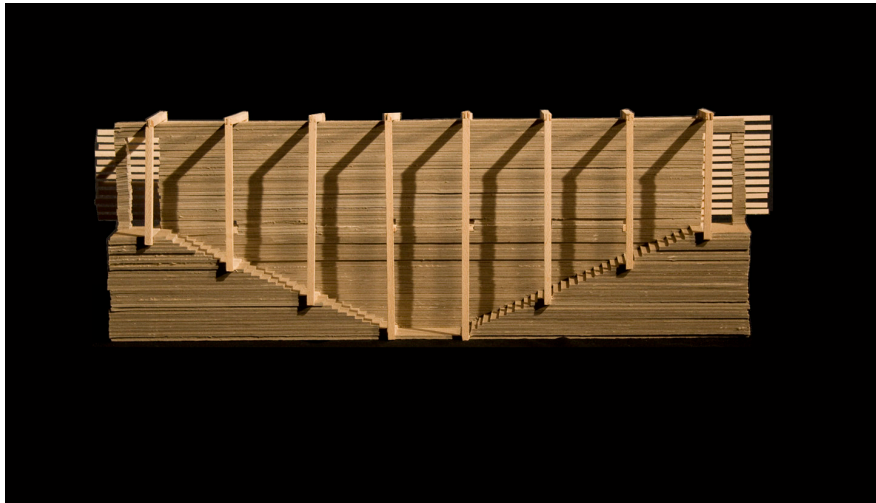


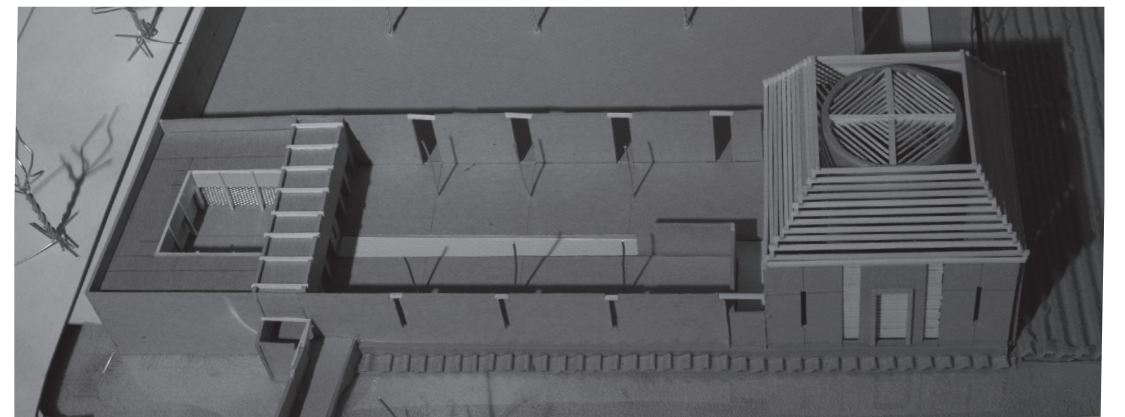
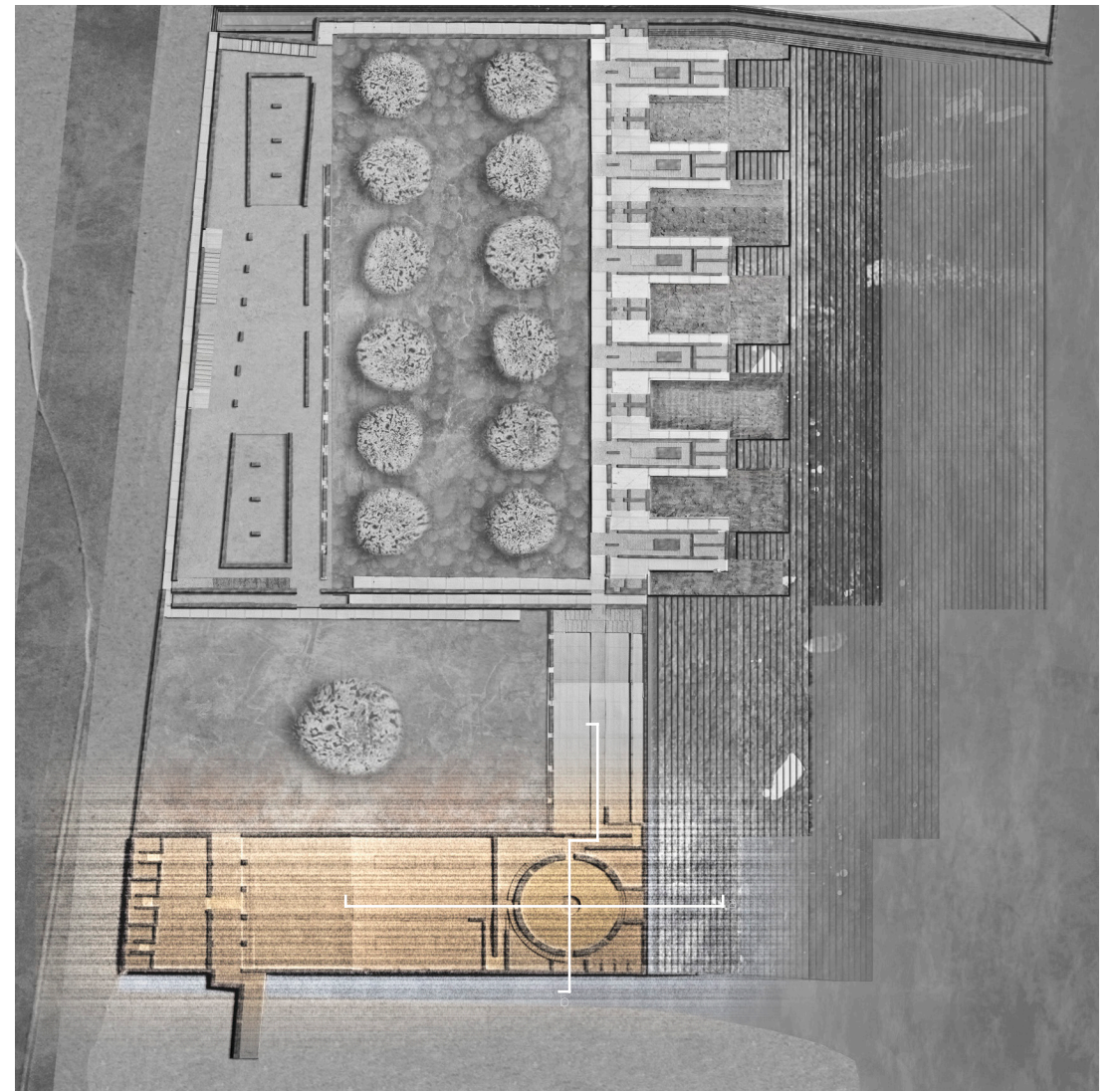
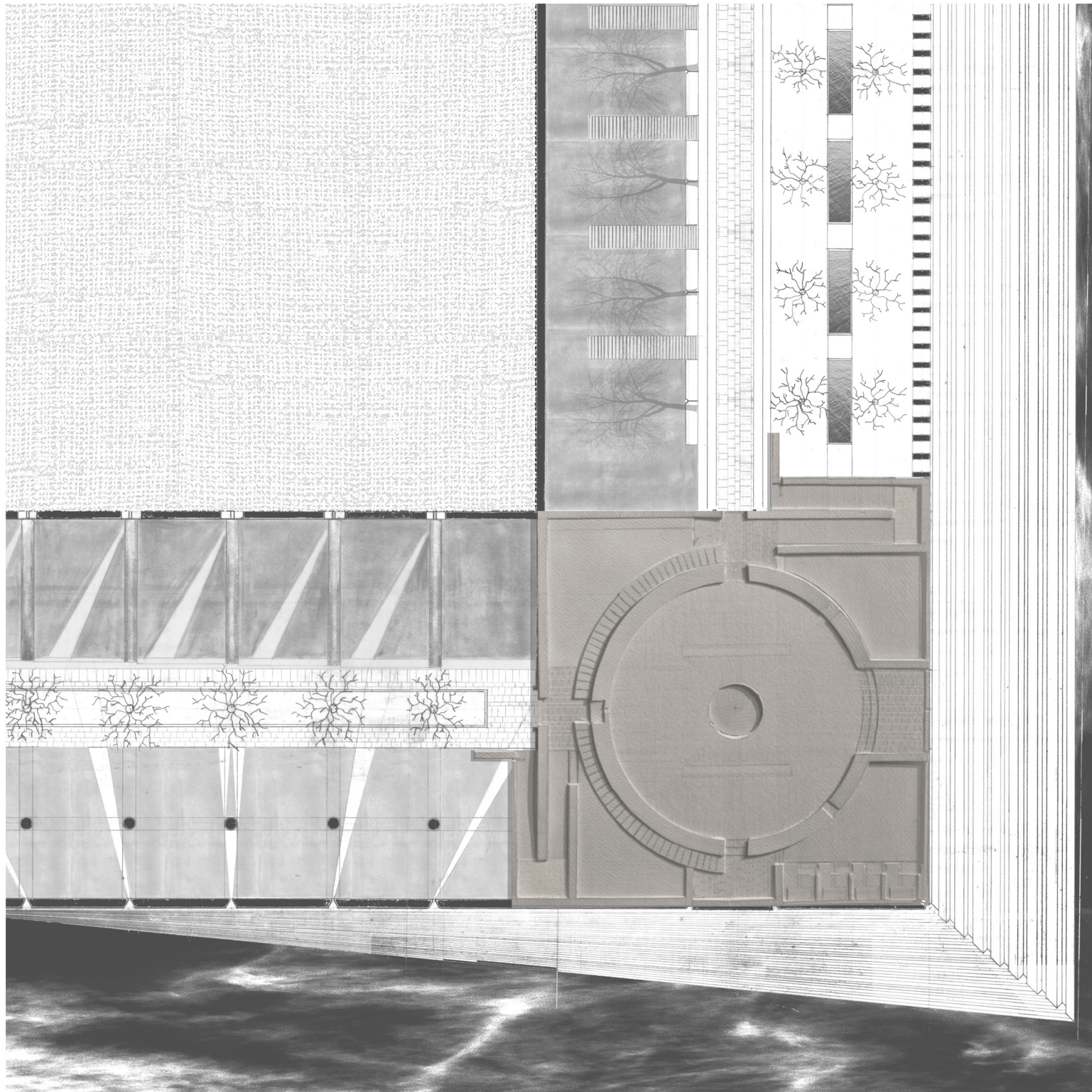


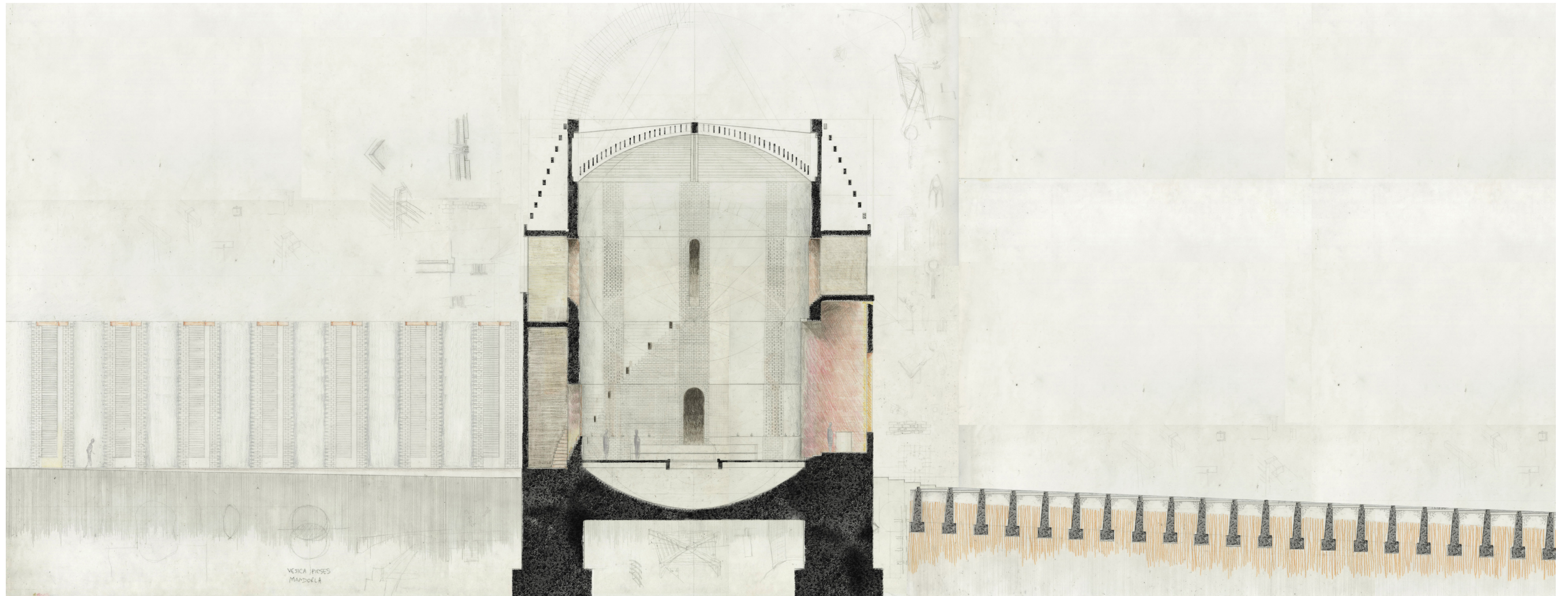
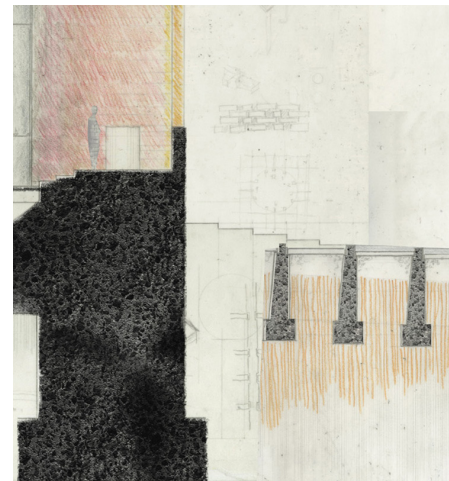
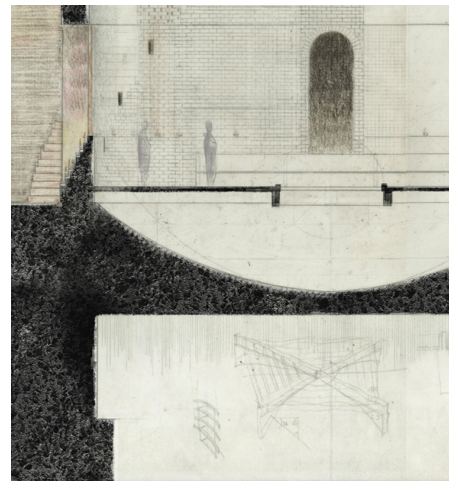
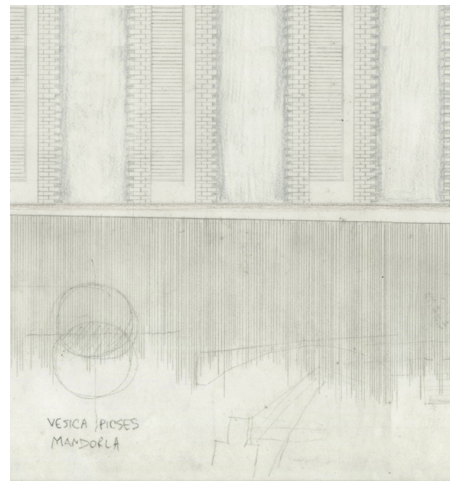
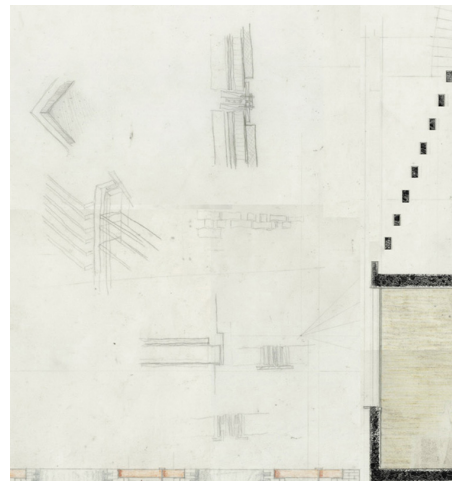


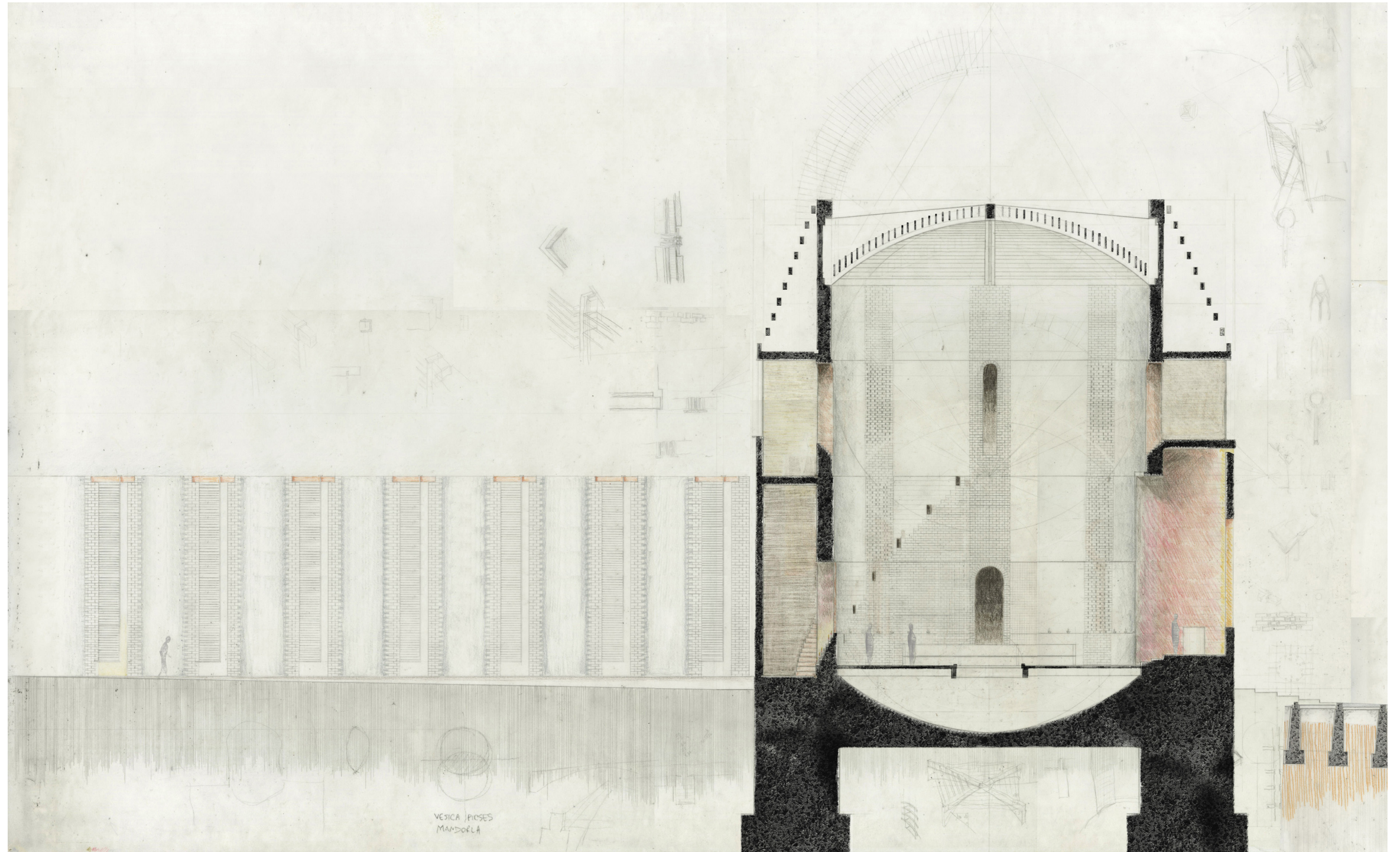




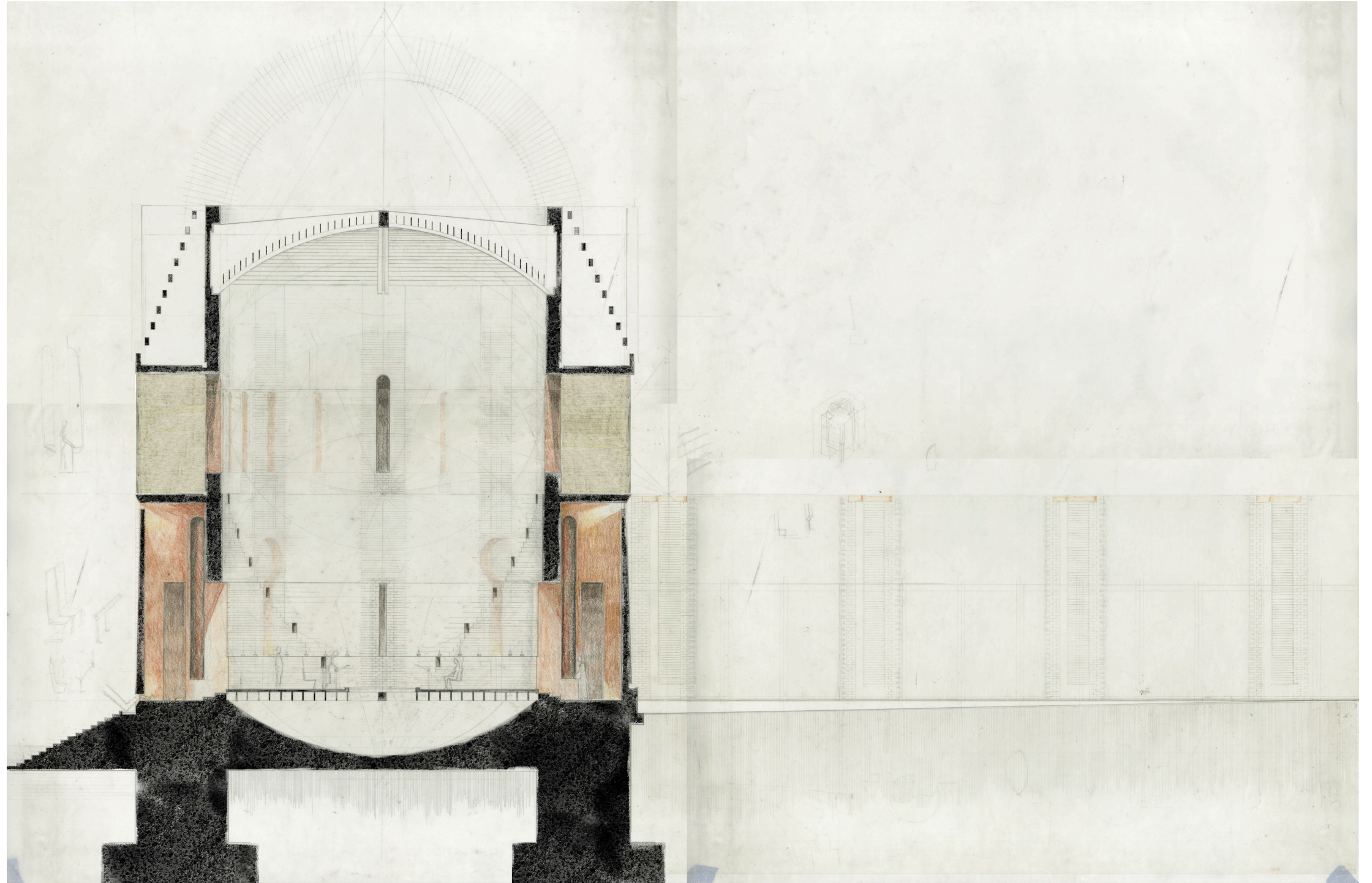




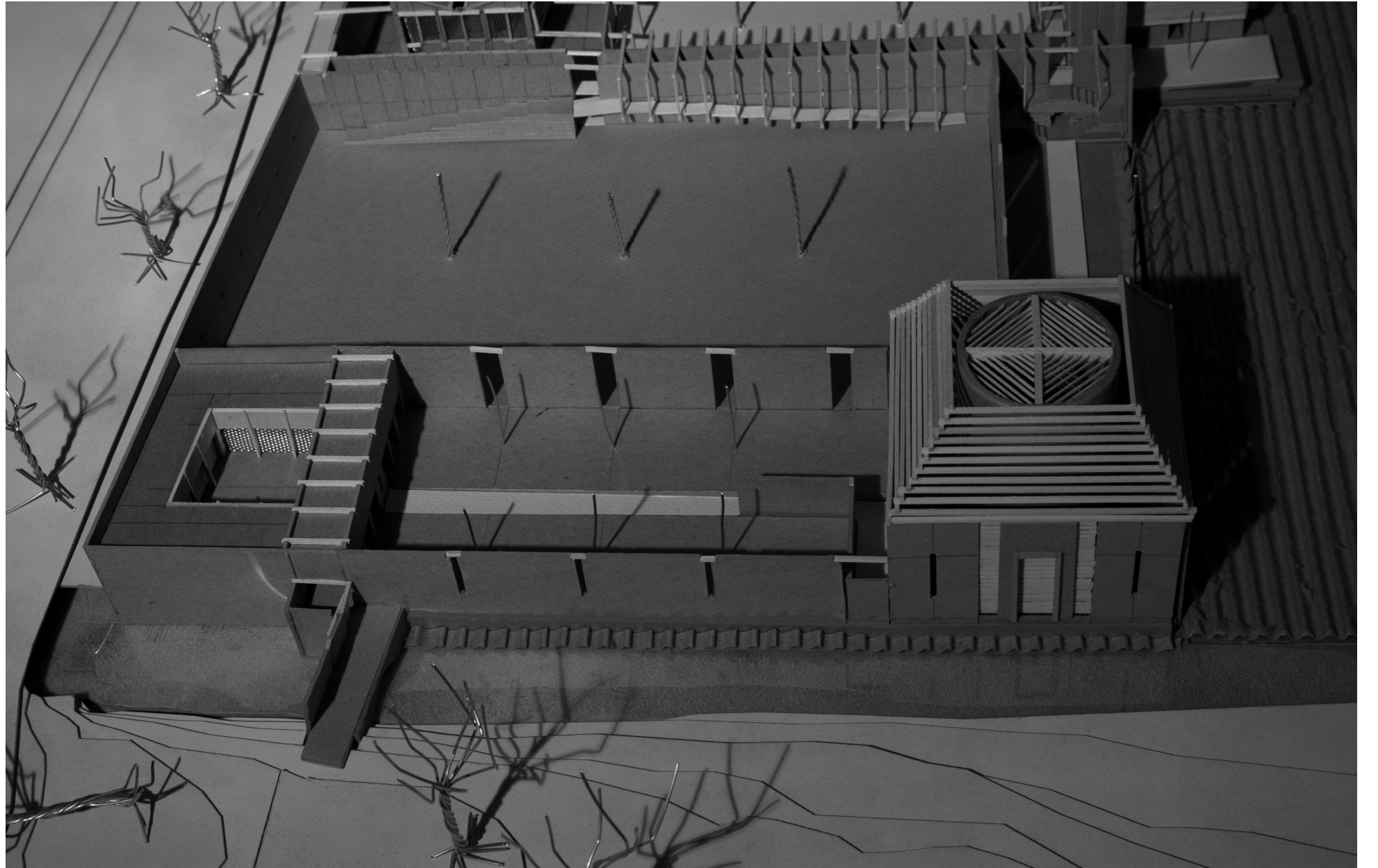


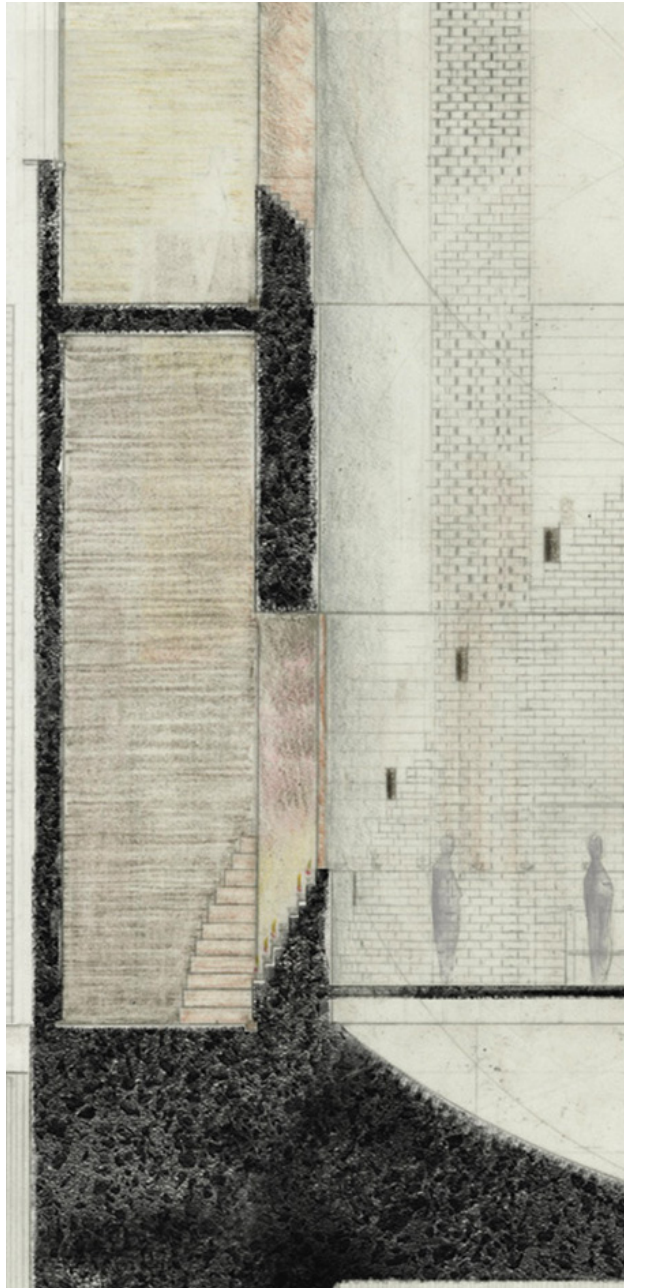
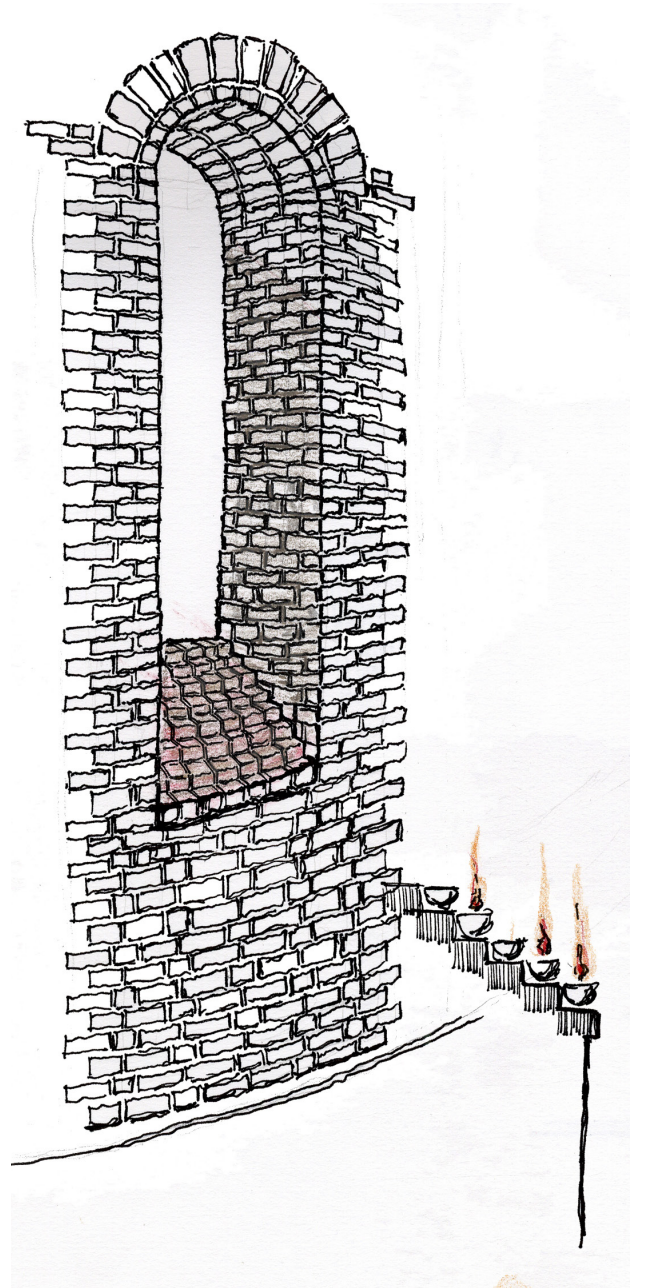
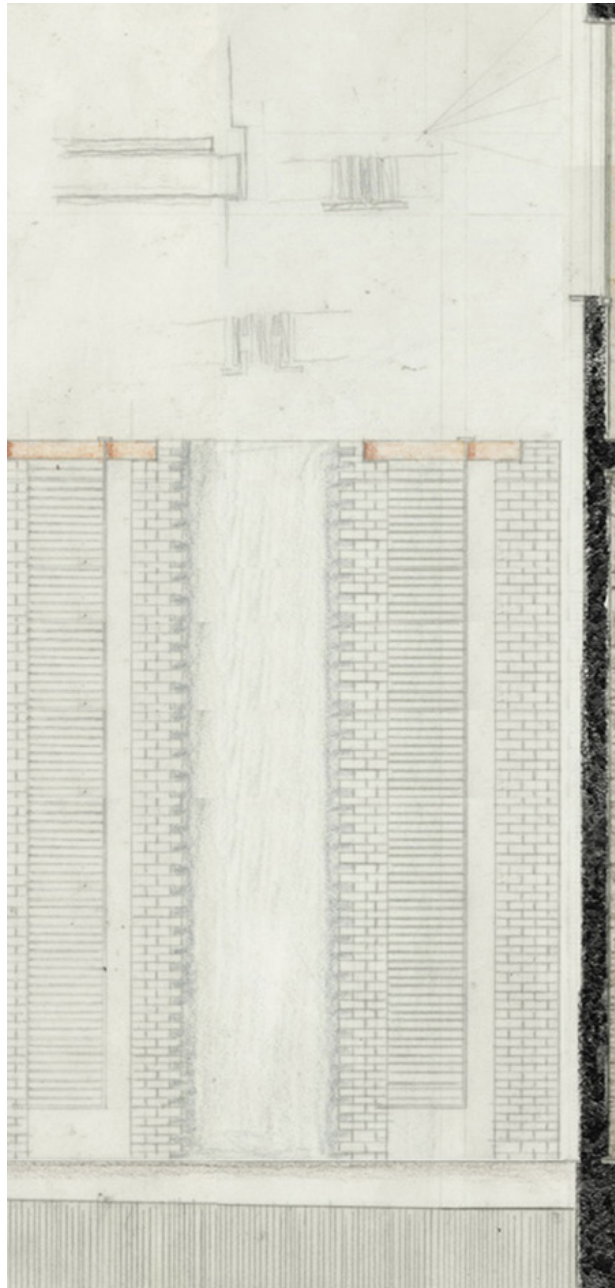
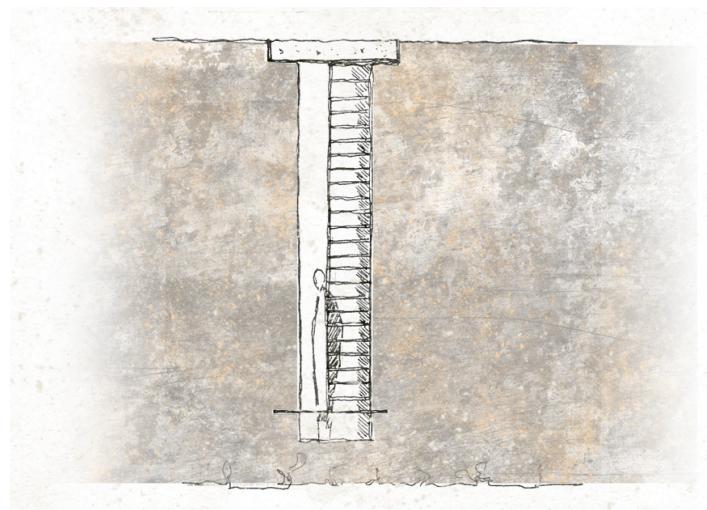


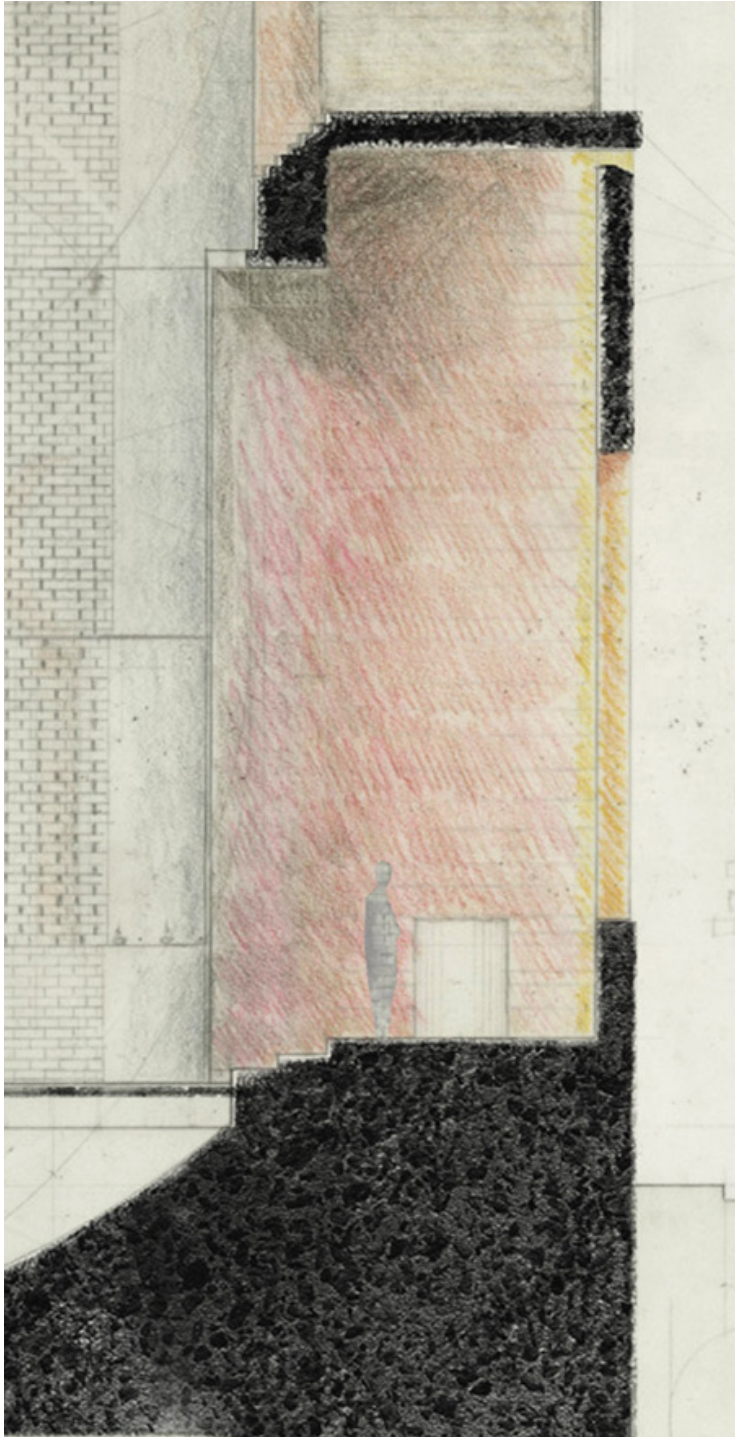
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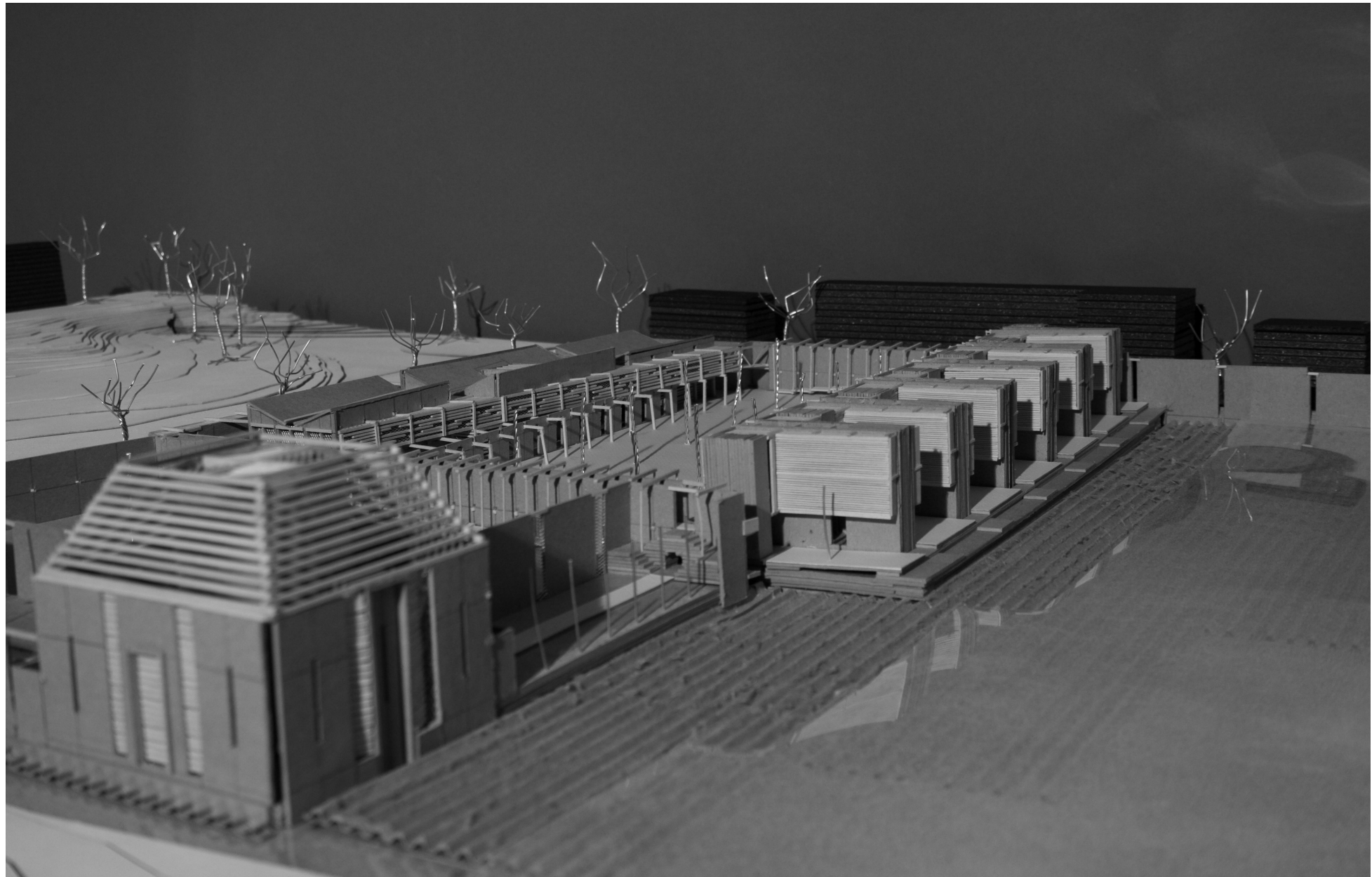


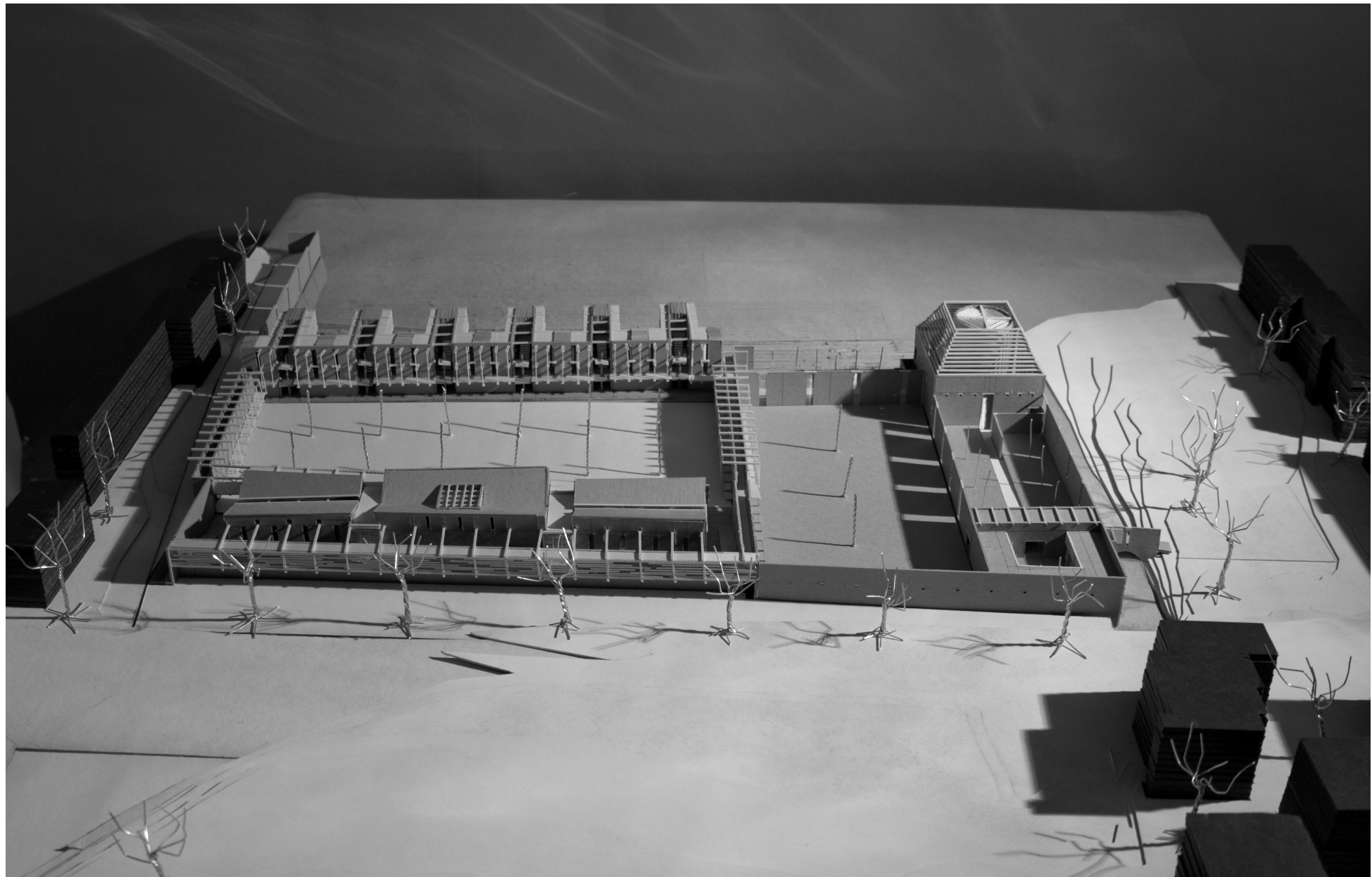
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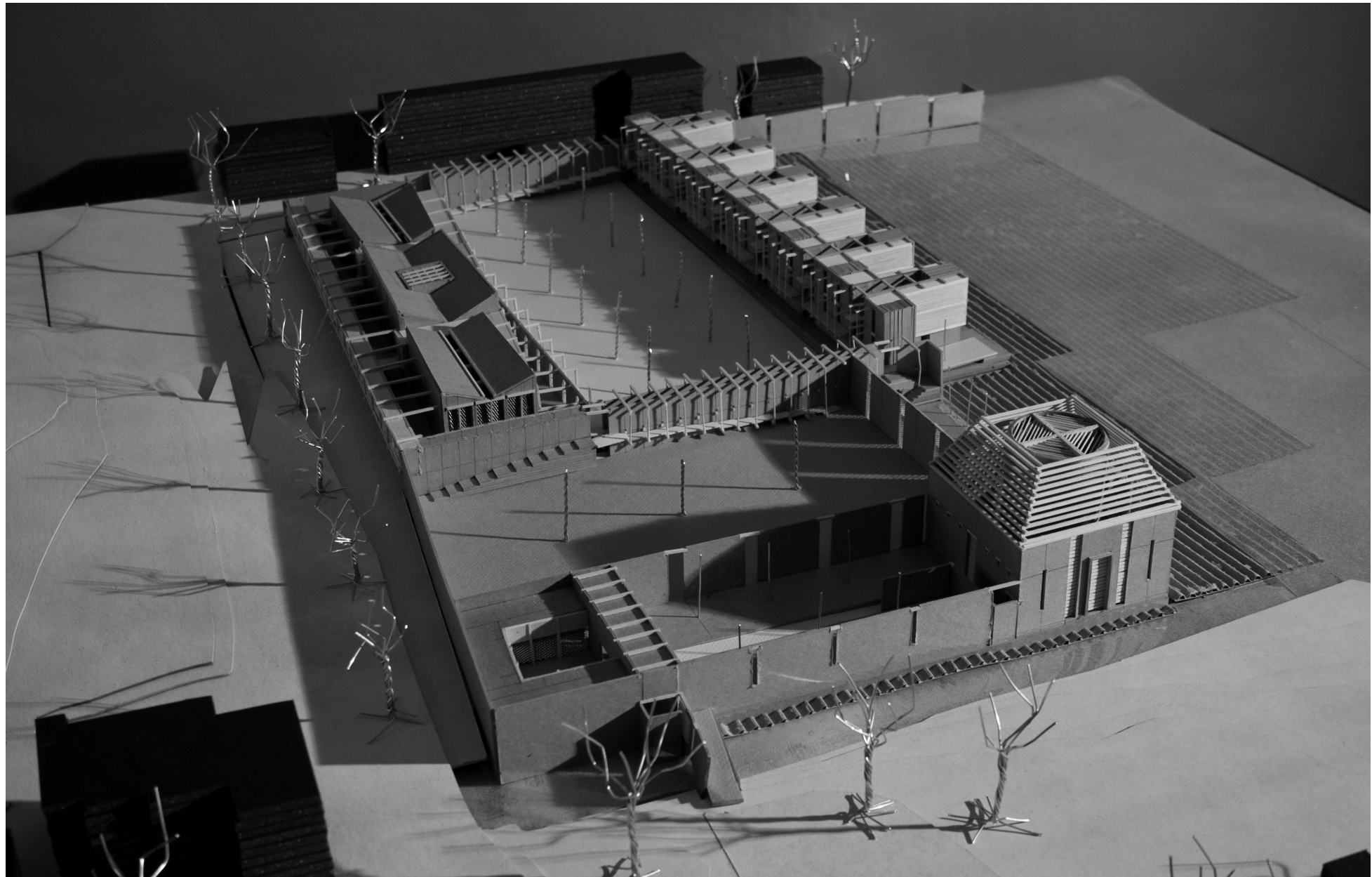


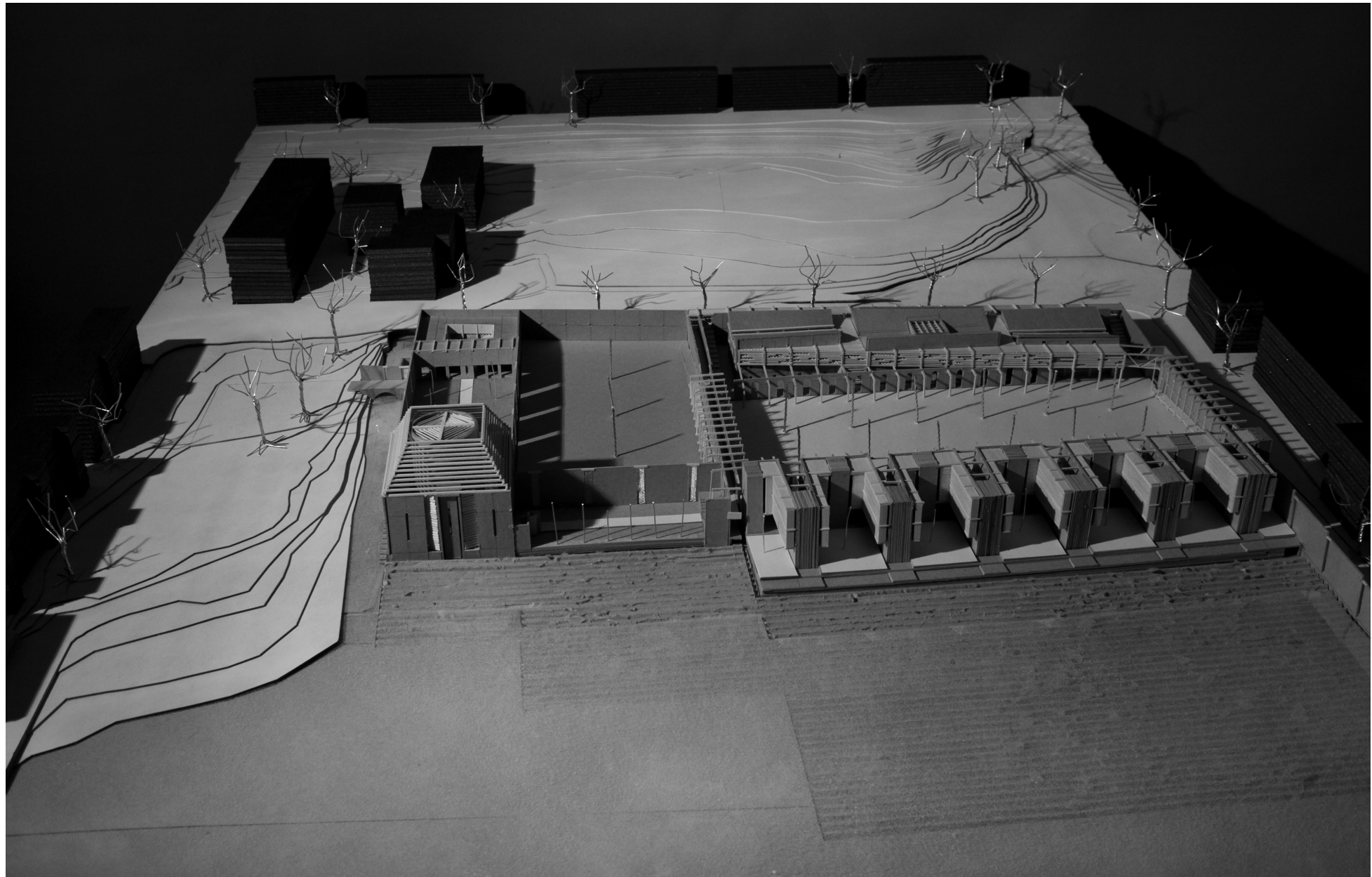












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