

**A MODERN HOUSE FOR A
NEW ENGLAND MAIN STREET**

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Polytechnic Institute and State University in
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ABSTRACT

Almost every New England town with colonial roots has a manicured Main Street, or some thoroughfare that is meticulously cared for in attempt to preserve and display its history through its architecture. Buildings range in age from as old as the town to as new as yesterday. However, in most cases, Main Street is not a true reflection of the complete history of a town. After a certain point in time, it was no longer acceptable to build in a manner reflective of the current conditions. If a new building was to be erected, only eclectic adaptations of past styles were deemed suitable, to achieve scenographic coherence. Resultantly, any significant truth to Main Street's architecture ceased to develop. A true reflection of the actual societal institution as manifested through the architecture of the town was lost. It is this loss that I refer to as "truth".

This thesis is about finding, and restoring, *truth* through the design of a new house on Main Street in Glastonbury, Connecticut. Glastonbury is a town full of colonial history, with more than 150 houses built before 1800, many of which exist on Main Street. The design for this house is not a direct condemnation of historic eclecticism; rather, it is an attempt to demonstrate how a house can be designed to reflect the true connection between time and place in the institution of "the house". The design acknowledges history through proportion, form, and scale, and it admits contemporary values through abstraction of details, use of materials, and organization of space. The product is a statement about how to design a house that comprehensively and truthfully reflects the spirit of its setting.

KEYWORDS: *Connecticut, Detail, House, New England, Truth*

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BEGINNING

Inherent Dualities

This thesis is about designing a house true to its place and its time.

This thesis is both old and new, both original and unoriginal. It is both personal and universal. And the dualities of this thesis are both deeply complex and deceptively obvious.

This thesis is not about an architecture possessing these dualities, though there are moments where it can be. These dualities are simply inherent to this thesis. These dualities are inherent to any thesis. The difference between this thesis and most other theses, as it pertains to these dualities, is that they are acknowledged and emphasized here. Treating these dualities as such is necessary to understand this thesis, to understand this as a thesis, and to shed some light on the past, present, and future of what is at play.

A discussion about *exactly* when and where this thesis began is irrelevant and best suited for other venues. However, because this thesis is about a house, a house true to a place and time, there are several indisputable claims that can be made regarding its origins. This thesis did not start when *this* thesis started. It started with man. It started with man some time ago. It started when man first built a house for himself, whenever, wherever, and however that was. Since then it has evolved. In this regard, this thesis is old, and unoriginal, and universal.

This thesis has evolved as consistently as the passing of time. It evolves whenever man moves to a different place and builds a different house. It evolves whenever man develops a new technology. It evolves whenever culture and values change. It evolves whenever social, economic or political situations shift. In other words, this thesis is always evolving. Or, depending on how it is looked at, this thesis is constant, and the conditions simply differ. In either case, this thesis is also new, and original, and personal.

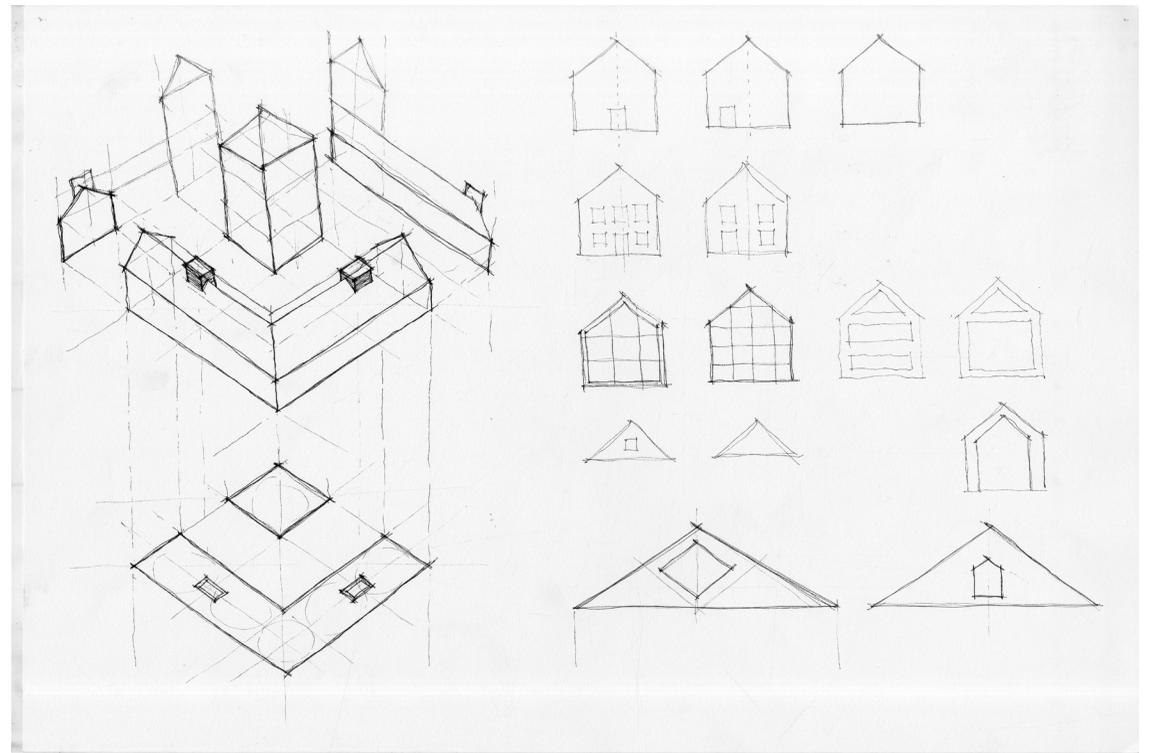
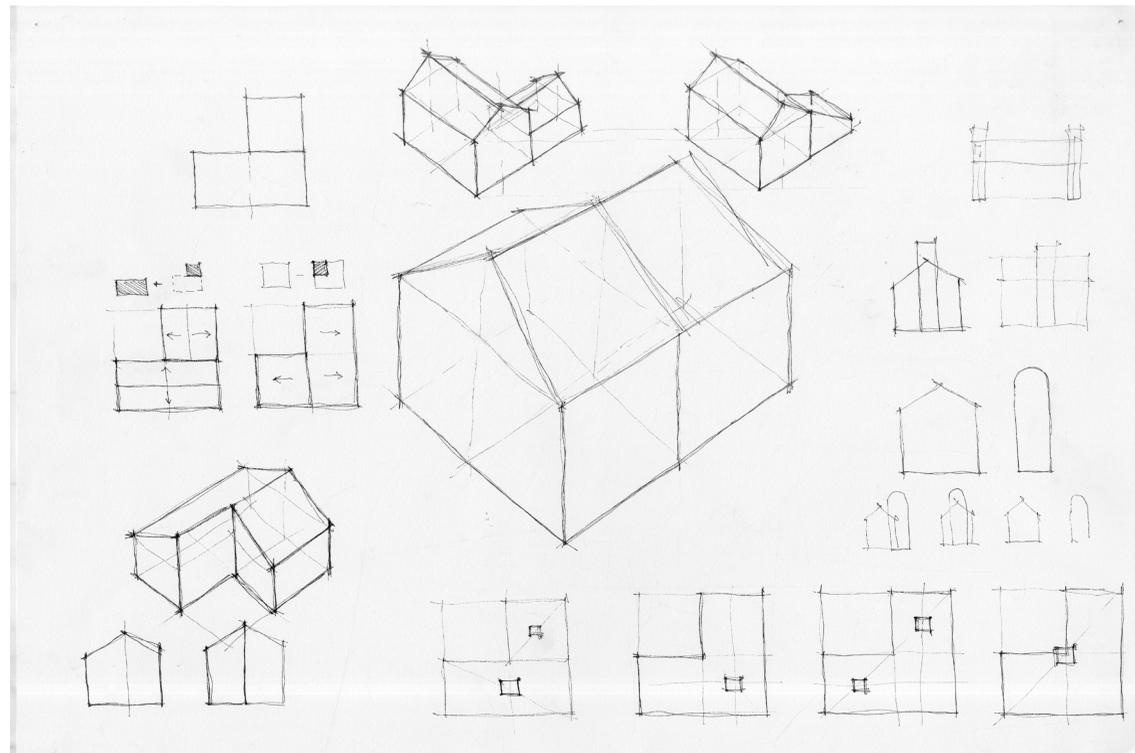
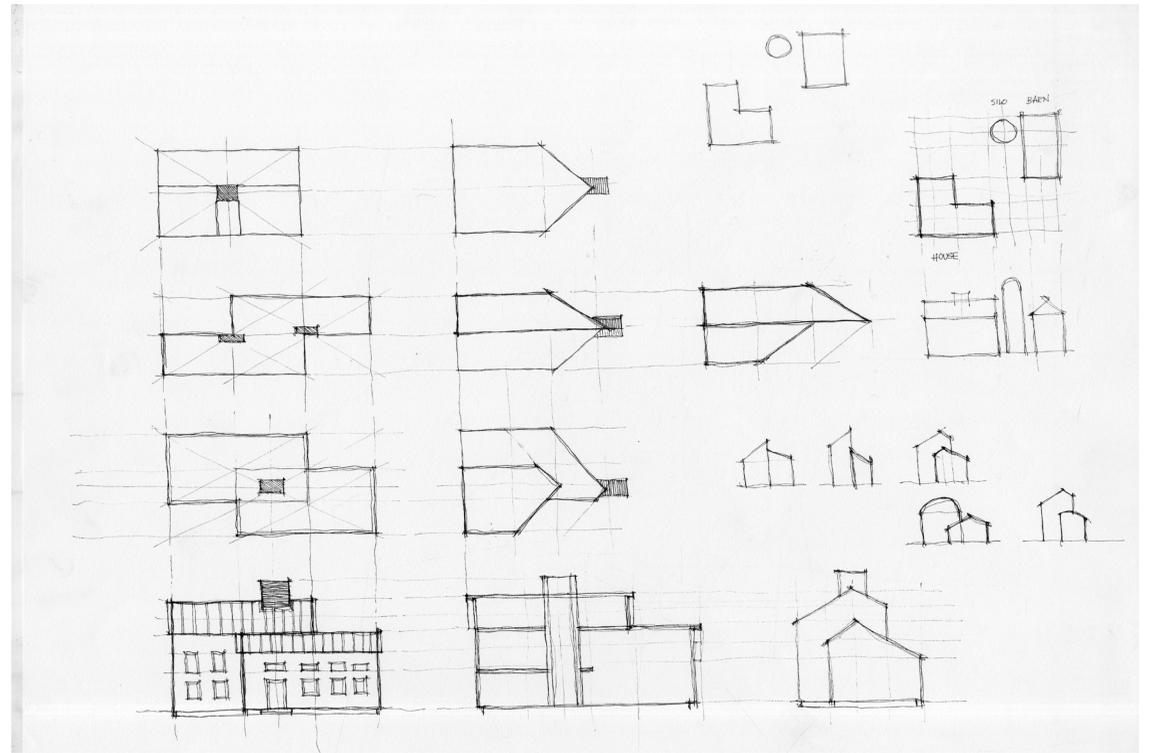
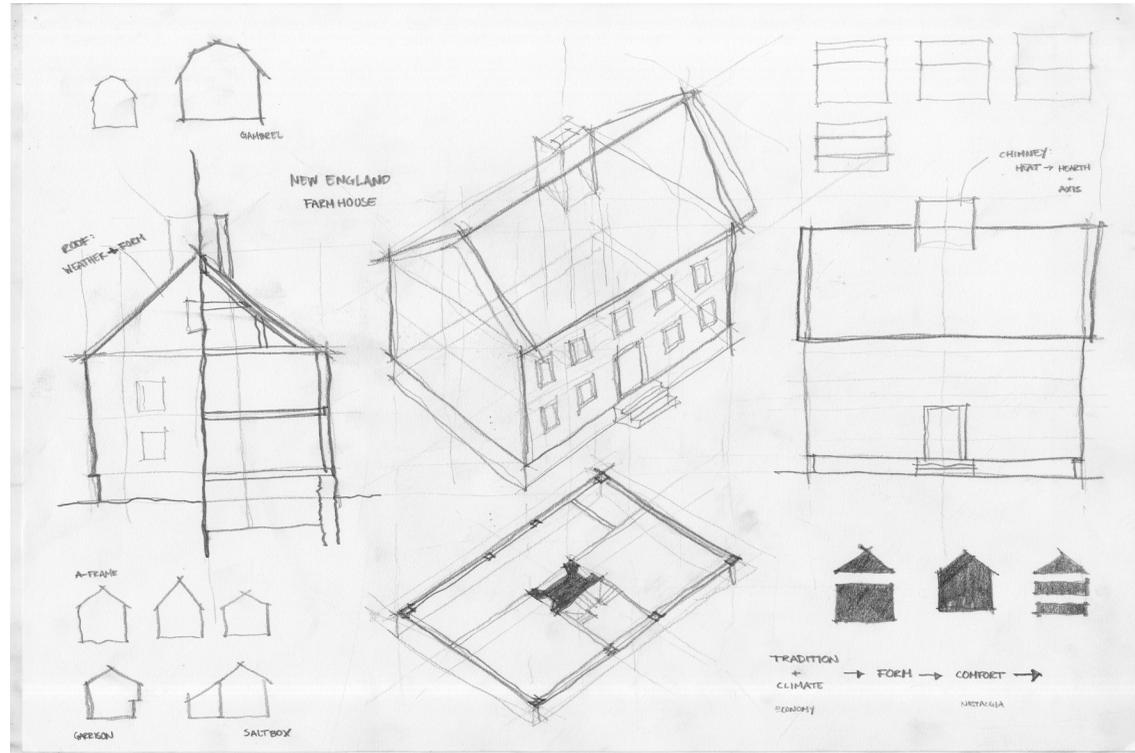
To put it more clearly, there is a greater thesis, and a particular thesis at play here.

The greater thesis, a continually evolving proposition for an architecture – in this case, a house – that is true to its time and place, has been around forever, and will be around forever.

This particular thesis, although it sways between looking towards the past and at the present, is particular because it occurs now. It occurs now at the cusp of old and new, original and unoriginal, universal and personal. It occurs, or it begins, where any thesis seeking to make a house true to a time and place would and should begin.

Ink/pencil on paper.
Early thesis idea sketches.

SKETCHES 1, 2, 3 4 ►



Inherent Personalness

This thesis is about designing a new house true to its place and its time.

It has been pointed out that this thesis of now is just a small part of a greater, ongoing thesis. It is also important to clarify when, and what, “now” is referring to. Here, now does not refer just to the present. It refers to the time during which this thesis was generated within me. It refers to events in my life that have allowed me to produce this thesis. It refers to the time period that is as old as my oldest memories. It refers to the time when I was alive, but have no memories of. And, of course, it refers to the time that I spent producing this thesis. So, in short, “now” refers to the time period of my life to date.

In other words, this thesis of now did not just appear in my mind when I opened a sketchbook in late August of 2018 to draw out some initial thoughts and ideas about what I wanted to explore during the year ahead. It did not start in the months and years of my graduate education leading up to my “thesis year”. This particular thesis started, or the potential for it started, about 28 years ago.

As with the dualities of this thesis, this thesis is not about my life or about my personal journey with this thesis. Any judgement of this thesis is not a judgement of my person. However, this thesis has been shaped by my life. And this thesis is personal, especially in the sense that it relates to me. This is, again, inherent. Though in this case, my experiences and my knowledge as a result of the events of my life, have allowed me to talk about certain things from a position of knowing.

The potential of this thesis came into being when I was born in August of 1991 and brought home to Glastonbury, Connecticut. The potential of this thesis grew when I was one year old, and my parents moved our family of three, at the time, into my grandparents’ house, a center-chimney colonial farmhouse built in 1725, also in Glastonbury. I do not remember these events. My awareness of them comes from the memories of others. They are memories passed on, not experienced. But they are key events in the timeline of this thesis. Passed on memories of events outside the time period of my life are important as well, but they are not necessarily unique to me, and are better covered later with a history available to all.

The potential of this thesis continued to grow with events that I do have memories of, like when I was first old enough to sneak out of the house and climb through the exposed structure of the old tobacco barn still standing at the back of our property. Like when I watched my father spend countless nights restoring both the interior and exterior of our house that had been covered up and altered by decades of my grandfather’s handywork. When I had to constantly explain to friends why the floors in our house squeaked, why we didn’t have air conditioning, and why our stairs were so steep. When I watched a mason restore our massive center chimney in order to bring it back to functioning condition. And when we had our first winter fire in the house’s

grand, six-foot wide, fireplace. When I spent summers during my late teens and early twenties painting and restoring the exteriors of dozens of old houses similar in age to the one I lived in. And when I wrote probably a half dozen papers about our house to satisfy various assignments throughout middle school, high school, and college.

All of these events and resultant memories, which are just a minor selection, are ingredients that have contributed to the brewing of ideas in my head throughout my life. With each event, the potential for this thesis grew. And during the past year, an attempt was made to realize the potential of this thesis through the proposition of it, through sketches, through drawings, and here, through some complimentary words.

127 Neipsic Road, Glastonbury,
CT. House of the author.
A center-chimney colonial
farmhouse built in 1725.

IMAGE 1 ►



A Feeling

Some nights I find it hard to fall asleep. I lie awake restless as the hours pass. My sheets feel heavy against my body. Heavy from the weight of the silence. It is smothering. It is almost disturbing. Only a passing siren or the slam of a nearby door briefly break its command of the night. The walls stand around me, paralyzed. The floor lies beneath me, unbending. The ceiling above me, stark and rigid. I toss and turn, every so often. The slight squeak of my mattress and the gentle ruffle of my pillows remind me that, at least, I am still alive. They want to speak. The walls, the floor, the ceiling. I know they do. I have heard them speak before. Just when I finished tucking myself into bed they used to come to life. They grumbled about the weather, and griped about their age, just like a few old men. Without fail, they each showed up every night to contribute to the conversation. I used to lie as still as I could and fall asleep listening.

But these, these things surrounding me, these are not my walls, or my floor, or my ceiling. This is not my room. And this not my house.

My house was alive. No, my house is alive. It talks and it tells stories. It changes with the seasons and it shows signs of its age. It has scars but it always boasts its strength. It weeps and it aches, yet it still protects and it comforts. It moves. And it breathes. It even has a heart.

This “house” has no heart. This building has no heart. This building is dead. This building was never alive.

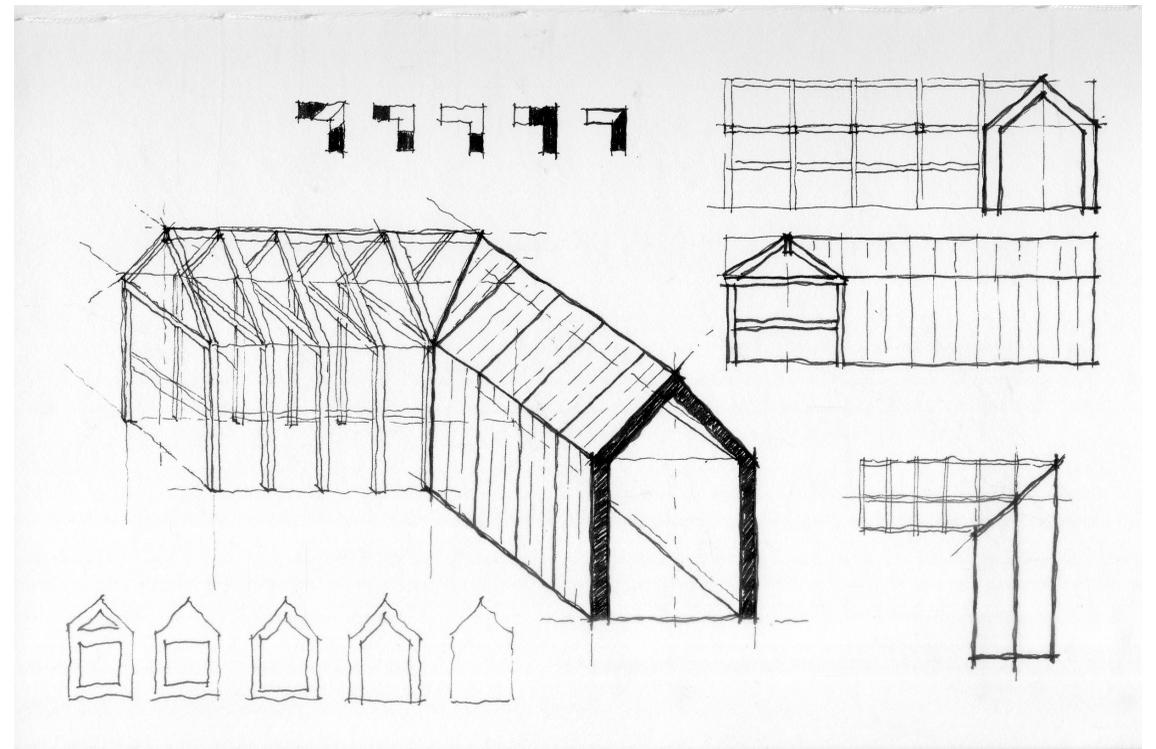
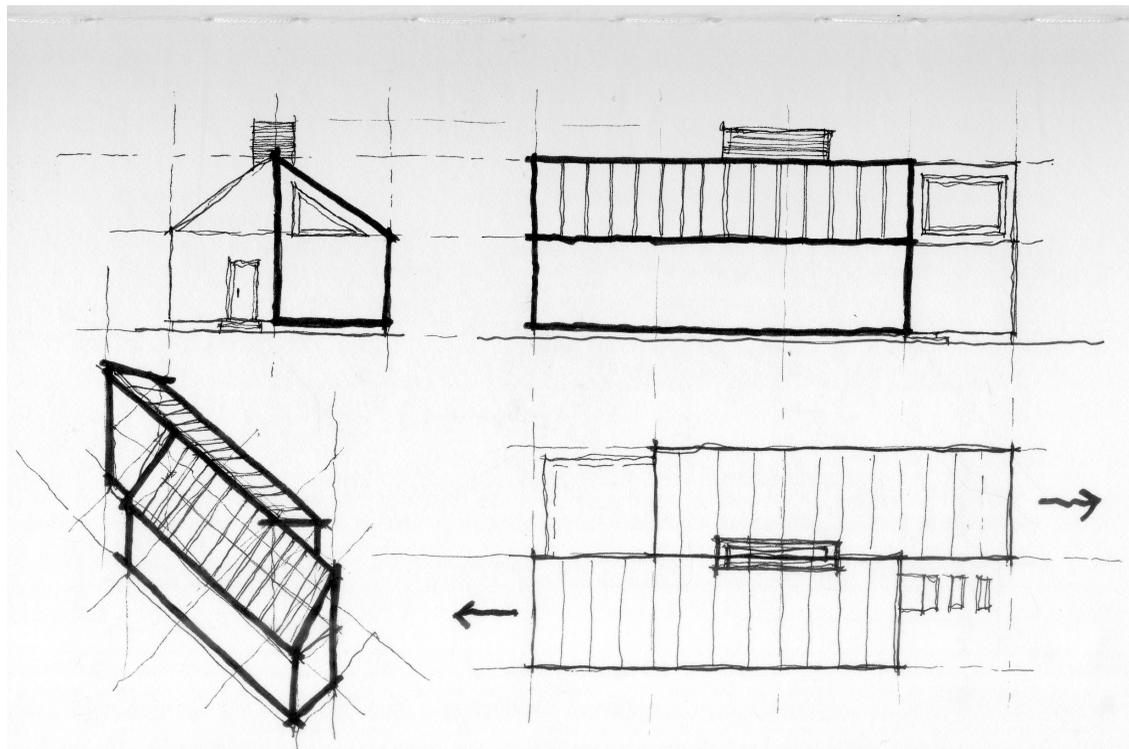
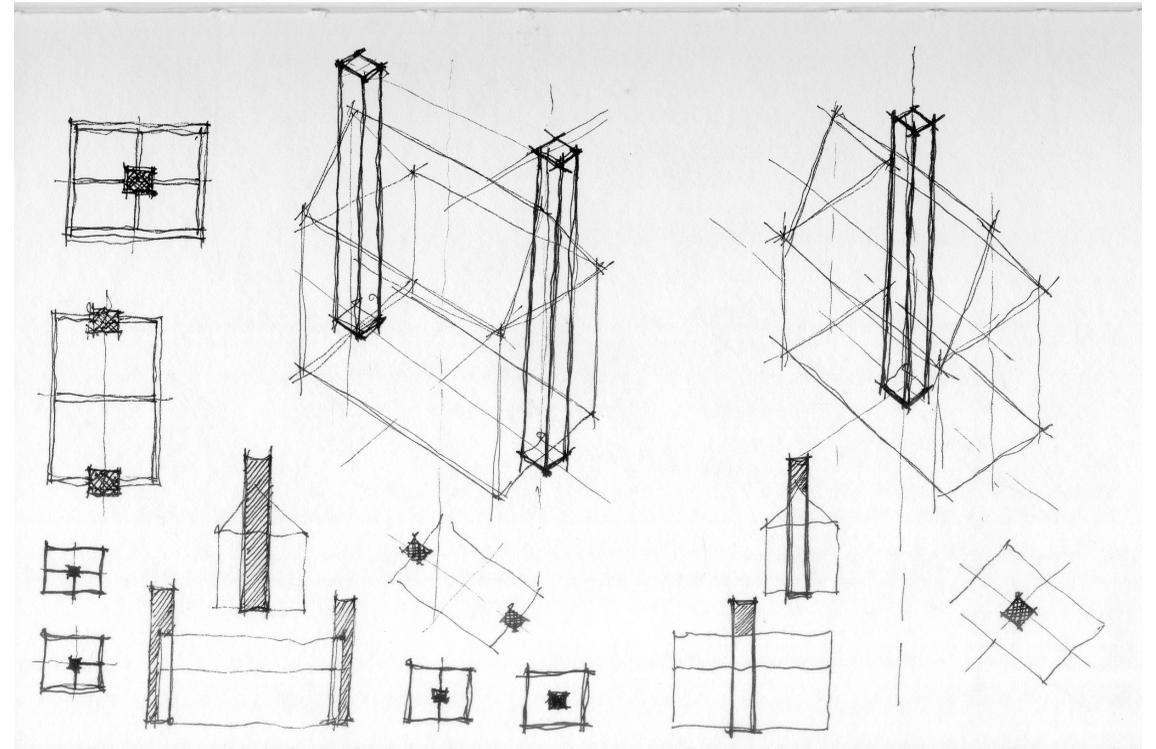
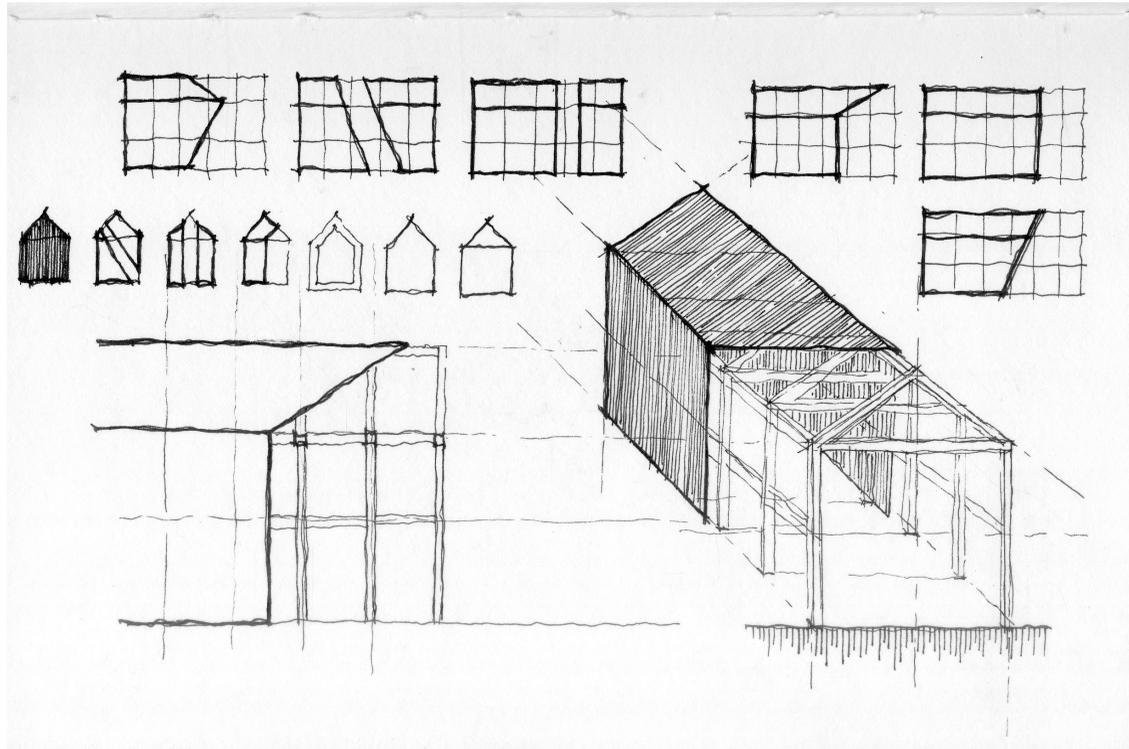
I really do not mean to come off as overly morbid in my description of this building. I do live in it after all. I did, to a certain extent, choose to live in it. And I do usually call it a house, even my house sometimes. Certainly not my home, but my house (mostly to avoid frequent explanation of a refusal to use convention). And it is not that I want to single this building out from all other buildings referred to as houses. It is definitely not alone in terms of its lack of aliveness, or better, its inanimateness. In fact, I think the majority of houses are inanimate, in many ways, including the majority of houses that I have lived in. Which is quite ironic considering that all houses are conceived, designed, constructed and resided in by animate human beings. Well, I suppose not all the aforementioned steps involve human beings these days, but for the most part they still do.

But anyway, I suppose I just feel uncomfortable. Uncomfortable and discomfoted. Uncomfortable in this house, and discomfoted by the fact that “houses” of the like are being designed and built and lived in, without question, at an unfathomable magnitude.

From the Author
September, 2018

Ink on paper.
Early thesis idea sketches.

SKETCHES 5, 6, 7, 8 ►



A History

“Truth is the fundamental principle of architecture. Of the many architectural styles which have, at one time or another, achieved popularity, those memorable few which most credibly bear the test of time are precisely the ones which reflect, faithfully and without distortion, the economic and social conditions out of which they sprang. An architectural style, if it is to be true, vital, and enduring, must clearly and candidly exhibit the spirit of the time in which it flourished—the spirit which is implicit in all the characteristic transactions of the time, and which may almost be defined as the sum of its manners, customs, and mode of living.

The early domestic architecture of the American colonies, judged by this criterion, was unmistakably pure and virile. The most superficial examination of the period is enough to prove that it was productive of a “true” style in architecture. Its building is honest, straightforward, devoid of affectation and sham. The early Colonial houses were true in two respects, both of crucial importance. First, they expressed with entire simplicity and directness the conditions which produced them. Secondly, and hardly less important, their implication was always intensely intimate, domestic. They were true to their milieu; and they were equally true to their purpose.”

J. Frederick Kelly, The Early Domestic Architecture of Connecticut.

As mentioned prior, this thesis constantly looks back and forth between the past and the present. This is necessary in a search for a truthful architecture. If a house is to be designed true to its place and time, there must be an awareness of both the current conditions, and the past conditions, from which the current ones certainly evolved. And, in most cases, any new architecture will exist in some type of spatial relationship to architecture of the past. So a brief history of place is imperative.

In the early, unrefined propositions of this thesis, it was intended that this house would be for a place in New England. However, when the word “truth” came in to play shortly thereafter, the place could no longer be defined as broadly. The place had to be specific enough so that there could be an actual, deep understanding of it. So the place was narrowed down to Connecticut, and then down to northern Connecticut, and finally down to the region including and closely surrounding the earliest settlements of the Connecticut Colony. This region was chosen because the earliest houses of Connecticut were built here (aside from Native American dwellings) and the architectural history of houses is well documented. So, a fairly comprehensive narrative of my predecessors’ search for truth is easy to put together. This is also the region of Connecticut that I am most familiar with, having grown up there.

The earliest settlements of the Connecticut Colony included the towns of Hartford, Windsor, and Wethersfield. They were all settled at about the same time, around 1635, by people who voluntarily ventured southwest from the Massachusetts Bay Colony, which was the first settlement in 1620. This pioneering group sought to develop a more democratic community and were eager to take advantage of the fertile soils of the Connecticut River Valley.

A majority of the English settlers of Massachusetts, and later Connecticut, were carpenters, masons, and other craftsmen. They brought with them traditional ways of building, even materials, from their various villages in England, so the earliest houses in New England clearly reflect these regional variations in construction, particularly in details. Before people made their way down to Connecticut, some of these traditions had already been altered slightly for a different climate, and they were beginning to blend together, just as the people were forming a new unified whole. Still, differences were discernible, but not to an extent worthy of noting here. And, more importantly, the architecture was still English.

Unlike in the initial settlement of Massachusetts, where the first houses built were little more than copies of houses back in England, and rightfully so, having been essentially pre-fabricated, the first houses in Connecticut began to show some movement towards a more truthful architecture. The second generation of houses in Massachusetts evolved as well, but Connecticut presented a land for somewhat of a another fresh start for a people even less attached to their past and more determined to establish an identity of their own.

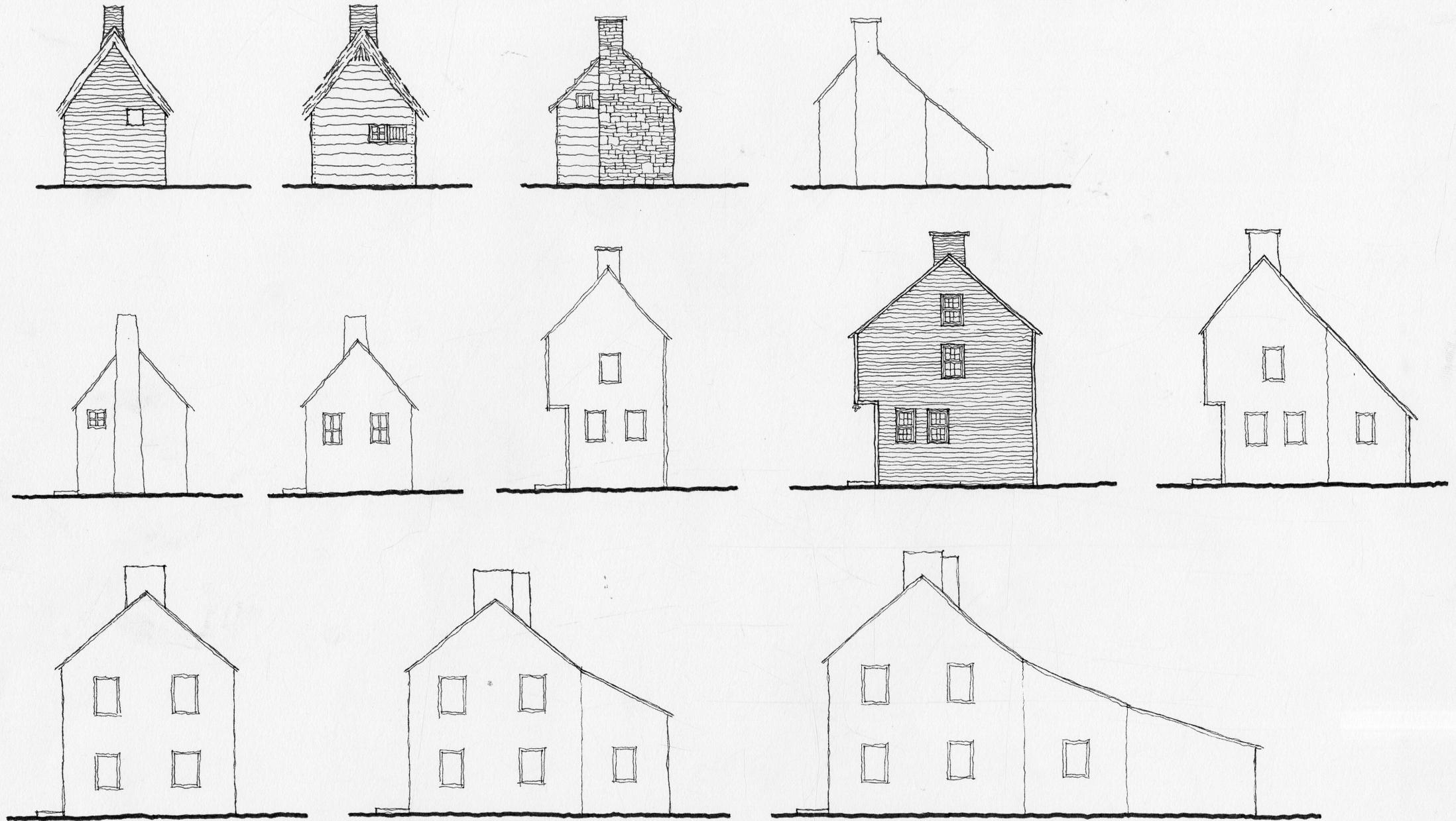
In general, the early houses of the Connecticut Colony can be discussed as whole, without locational distinction. In other words, houses did not vary significantly based on their location within the Connecticut River Valley. There was clearly a more shared way of thinking about construction and design among this group of craftsmen. Therefore, it is relatively easy to chronologically differentiate the design of houses into three groupings: houses built after the settlement of Connecticut until about 1675, houses built between 1675 and 1700, and house built between 1700 and 1750. This evolution occurred as a result of growing wealth, changing habits, generations becoming increasingly detached from English traditions, and an overall stronger grasp on how to build in Connecticut.

Skipping over temporary shelters built immediately after the migration, houses in Connecticut built up until 1675 were very simple. They were one-and-a-half or two stories, had two rooms on each floor, a large central chimney between the two rooms, and a staircase in front of the chimney connecting the floors. Houses in the next period were almost exactly the same, except for the addition of a single-story lean-to off the back of the house. And in the third period, the lean-to roof was eliminated and the whole house was raised to become a two-story structure above the enlarged plan.

Of course, there were overlaps in the housing forms from period to period, but only backwards (i.e. houses from the first period were still bit in the third period, but not the other way around). Other principles, elements, and details from some of these early houses will be discussed later, where they are studied more closely and when they are relevant to making a decision in the new house designed for this thesis. But in terms of an introductory history, this will suffice for now.

Ink on paper:
General evolution of housing forms in New England, in side elevation, from initial settlement through about 1750.

SKETCH X ►



A Study

The search for truth starts here, through *study*.

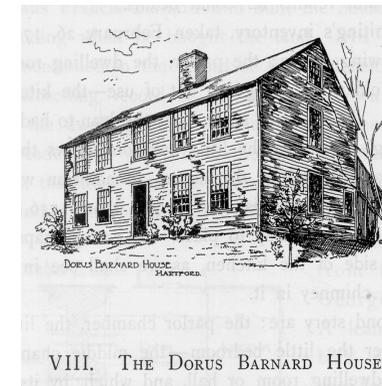
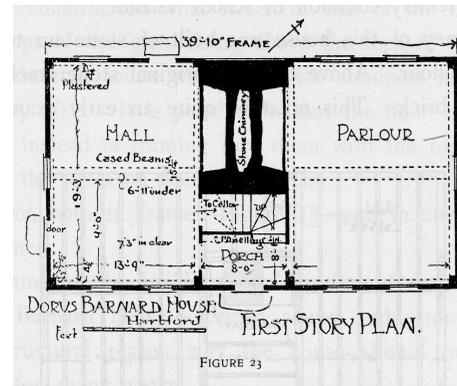
The first large-scale, drafted drawings executed for this thesis were studies of a selection of houses from the time period defined previously, during which the early houses of the Connecticut Colony were erected. While there is significant documentation on many of these houses, there are very few accurately constructed drawings of them. Therefore, these drawings should not be considered copies, but rather reconstructions from the various sources of information and sketches that provide dimensions and details. They were executed in order to further understand certain things about the architecture that can only be ascertained from drawings with dimensional accuracy.

Of the three chronological periods that categorize the early houses of Connecticut, none are completely devoid of the influence of English tradition. This is to be expected, for the overall time period being discussed is relatively short, just over a hundred years after Connecticut was settled. And, many English traditions were still reflective of the young society, or still effective means for building a house in the new land. In other words, an entirely new housing form was not going to rapidly develop in Connecticut, or in New England for that matter, simply because of the migration. However, as I hinted at in the opening words of this book, the movement of a people to a new place and a change of values among a people both provide an obvious increase in potential for the evolution of a truthful architecture, which is what this study looks at.

The two housing forms that were reconstructed in study drawings come from the first and second periods of early Connecticut houses, 1635-1675, and 1675-1700, respectively. It is during these two periods that the largest strides towards a truthful architecture were made. This is not to say that changes did not occur during the last period, from 1700-1750. Changes occurred then as well, but there was primarily just a unification of the previous changes happening. And more importantly, it was not long after this unification finally took place that new English architectural trends, namely the Georgian style, made their way across the Atlantic. From this point on, Georgian details were carelessly being tacked on to houses, or new houses were being built entirely in the new style, effectively marking an end to the evolution of the housing form of interest. So, to summarize, the period from about 1660-1720, give or take a decade in either direction, can be considered the most truthful time in early Connecticut architecture, as truth is defined in this thesis.

Drawing 1 includes four reconstructions of houses built during the first period of early houses in Connecticut. These reconstructions are of specific houses. They share many characteristics, but they also have significant differences from each other. I will specifically touch on one characteristic that was common to all of the houses, and three that weren't universal, but that play a large part in the initial evolution towards truth.

Proportion. Each house has almost the same proportions, particularly in plan. Typical house widths ranged from 36 to 42 feet, and depths from 18 to 21 feet. So the overall proportion was more or less a 2:1 rectangle. Within this rectangle, the plan of the



Images 2, 3. Reconstructed sketch plan and perspective of the Dorus Barnard House in Hartford, CT. Still standing. Built ca. 1660 during the first period of early houses. The house was a two-room plan, with no second-story overhangs.

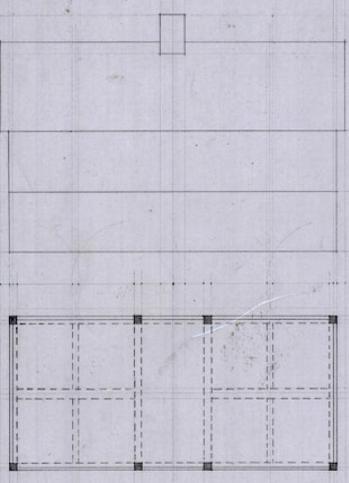
house is composed of three bays defined by the timber frame. The central bay, which contained the entry, the stair, and the chimney, ranged from about 7 to 9 feet in width. The bays on either side were correspondingly about 14-17 feet in width, and formed the two main rooms of the house, the parlour and the hall.

Roof. All of the houses shown have relatively shallow pitched roofs, except for the one shown in the top left, which is about 1:1. This steep pitch, or even ones steeper, likely would have existed on all four of these houses originally, before later adjustments (surveys of these house took place after roof changes). The steep pitch is a leftover design characteristic of English houses, which had thatched roofs at the time, and therefore required a steeper pitch to adequately shed water. However, in Connecticut, and most of New England, settlers quickly discovered the many effective applications of cedar wood, which did not exist in England. Cedar shingles were one of these applications. Once settlers were more familiar with the new roofing material's strength under a snow load and capacity to shed water, old roofs were often made shallower, and new roofs were built shallower to begin with.

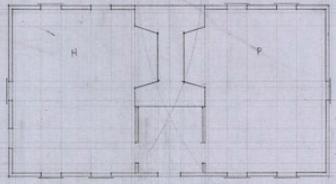
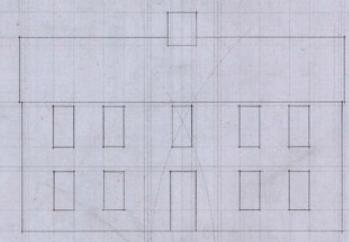
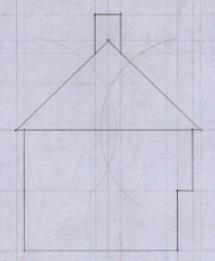
Overhang. All of the houses shown have a fairly deep overhang, except for the one shown in the top right. By overhang I am referring to the portion of the second floor that protrudes beyond the exterior face of the first floor, specifically at the front of the house. Most early houses had overhangs of one and a half feet in depth, but some were as deep as three feet. They were typically adorned with ornamental brackets and carved pendants, or "drops", that appeared to hang beneath it. The overhang is another feature that was brought over from England, and lived on through the second period in Connecticut. In England, it was used exclusively on houses located in cities, or more densely populated areas, primarily as a means to protect street vendor stalls beneath it from the rain. It also gave more width to the street and more square footage to the second story of houses. So in Connecticut, where all houses were essentially country

*Pencil on paper (24"x36").
Three projection drawings
of several early Connecticut
farmhouse from the first period,
1635-1675.*

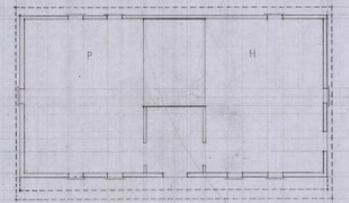
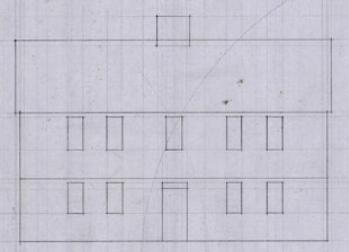
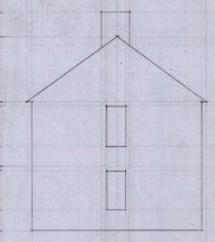
DRAWING 1 ►



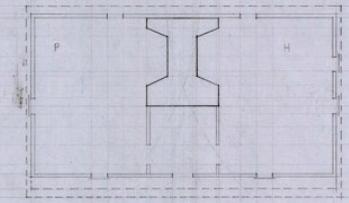
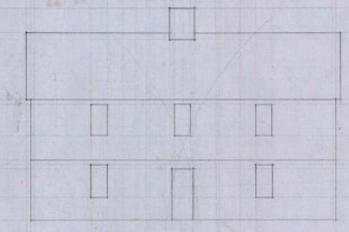
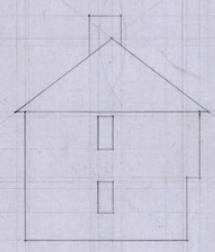
MOORE HOUSE 1941
WINDSOR, CT



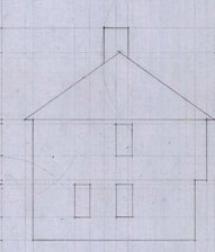
DEVIS SAENARD HOUSE 1951
HARTFORD, CT



GLEASON HOUSE 1970-1975
FARMINGTON, CT



WHITMAN HOUSE 1960
FARMINGTON, CT



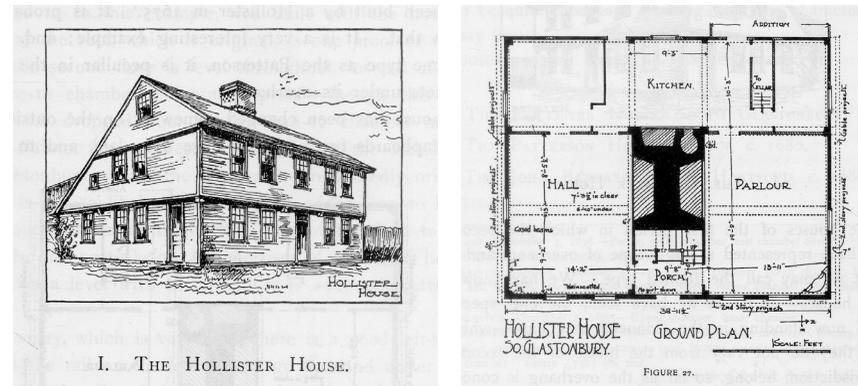
houses, due to the generous spacing even in town centers, the overhang was essentially pointless. Yet it lived on for quite a time. There is a myth arguing that the overhang was kept for defensive purposes during a time when Native American attacks were still frequent, but the advantage it gave is not well supported. It is more likely that it existed originally because the carpenters who came to Connecticut were from cities in England, and its later existence was a mere oversight of younger generations of carpenters who never thought twice about it. Nonetheless, the overhang was minimized over time, and eventually eliminated.

Windows. Every house of the first, second, and third period, provided they were houses with their long dimension at the front, have a symmetrical window arrangement on this front facade. Of the houses reconstructed in *Drawing 1*, two show nine windows on the front, one shows five, and the other had already been turned into a barn when it was first surveyed, so it shows no windows. The symmetrical arrangement of nine windows became the standard after the first period, as increased natural light was desirable, along with providing better views out towards the street and in from the street.

It is also important to note that the windows shown in *Drawing 1* are most likely replacements of windows that were originally much smaller, though still probably symmetrically arranged. There is a common myth that windows were smaller in early colonial house as a result of the window taxes that existed in England from the late 17th century through the 19th century. However, the reasons for small windows were much simpler. Glass was an expensive material, and the early colonist were not wealthy. On top of that, as is seen with the steep pitched roofs of early houses, small windows were part of a first attempt at dealing with the new harsh climate of New England. Not everyone could afford shutters, so smaller windows were a solution to protecting the house from the cold. And lastly, smaller windows were also a defense mechanism during the time when Native American attacks were still going on. But, eventually, the attacks faded, the settlers grew wealthier, and the windows reached the size and arrangement that is depicted here.

Drawing 2 is a reconstruction of a house built during the second period of early houses in Connecticut. Unlike the houses in *Drawing 1*, it is not a reconstruction of a specific house, but rather an average of the primary housing form of this time. With this type of house, I will touch on two characteristics that demonstrate a continued evolution towards truth.

As mentioned prior, the second period is most well-defined by houses built *with* a lean-to off the back of a two-room plan, rather than the lean-to being an addition. Houses built *with* the lean-to can easily be distinguished from houses where the lean-to was added by way of several visual indicators. The most obvious is seen in the pitch of the back roof. Houses with a lean-to addition typically have a change in slope in their roofs. The roofs of houses built during the first period were very steep, as mentioned above, and the pitch of the addition was typically shallower. Houses built



Images 4, 5. Reconstructed sketch perspective and plan of the Hollister House in South Glastonbury, CT. Still standing. Built in 1675 during the second period of early houses. The house was built with a lean-to, rather than the lean-to being an addition.

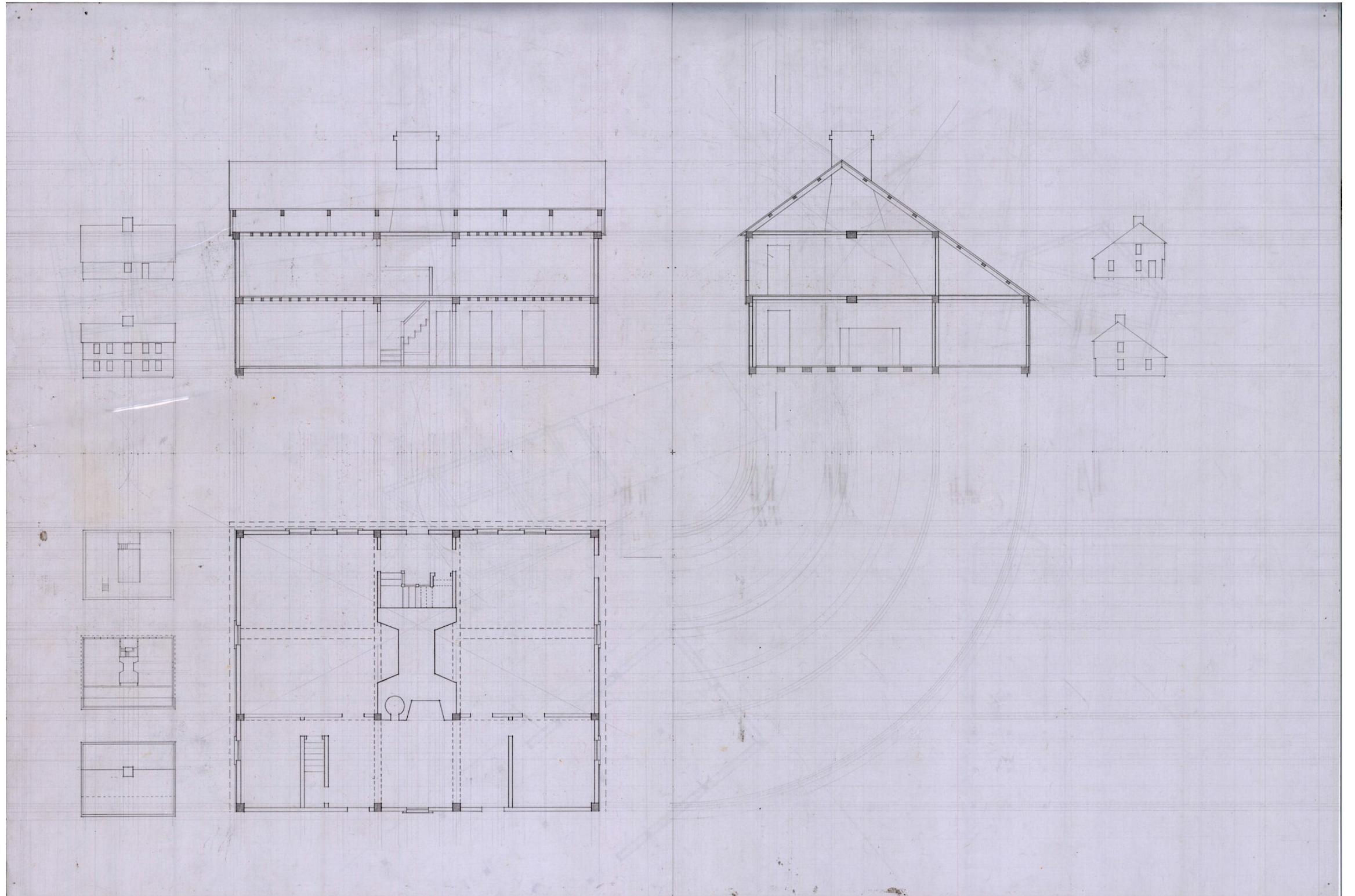
with the lean-to typically have a continuous pitch from roof peak to the back eave, which matches the pitch of the front roof. Other indicators of an addition include discontinuity in the cladding and crude framing details at seam of the addition. So, one aim of the second period's housing evolution, as demonstrated by houses with continuous sloped roofs, was to preserve some purity of the form that existed in the smaller houses of the first period. This purity was not fully achieved again until the third period, when the whole house was raised and the roof became symmetrical from the side again, but nonetheless, it was clearly a priority.

The other major evolution worth noting in the second period, which is also tied into the addition of the lean-to, pertains to the relationship of the interior of the house to the chimney and fireplace. In the two-room house of the first period, while the chimney exited the roof at the center of the peak, on the interior the masonry of the chimney extended all the way to the back of the house, allowing for circulation between rooms to occur only through the front entry. With the addition of the lean-to, though it came as a need for more space and an isolated kitchen area, the chimney could now be experienced almost entirely in the round, with the exception of the entry, where the stair still covered it. This relationship to the interior spaces of the house heightened the chimney's axial existence and made it, along with its three fireplaces, more of the heart of the home. Again, this evolution was furthered in the third period when three rooms on each floor surrounded the chimney, but the initial evolution in the second period is sufficient to show the effect.

Though there were of course others, these six characteristics and evolutions towards truth studied from the first two periods of early Connecticut houses form the foundation for the design of this thesis. It is from here that I sought to continue an evolution that had terminated long ago and bring it up to date with the present.

Pencil on paper (24"x36").
Three projection drawing of an early Connecticut farmhouse from the second period, 1675-1700. A two-room house with a lean-to addition.

DRAWING 2 ►



MIDDLE

The search for truth by way of *design* starts here, in what is being referred to as the middle portion of this thesis.

Many of the first steps in designing this house stem directly from the particular things studied in the early houses of Connecticut. These things, such as proportion, are used as starting points, and means to several ends, especially related to a design true to a place.

It is important to point out at this point, that I don't believe this approach, starting with pieces of architecture of the past, to be the only approach for designing a truthful house. Furthermore, I don't believe this to be the only approach for designing a truthful house in the exact place that this house aims to be truthful towards.

I do believe that in order to design a house that is true to a time and a place, in the way that I have defined truth, it is absolutely necessary to have a comprehensive understanding of the history of a place. And I do believe that a truthful architecture must demonstrate this understanding.

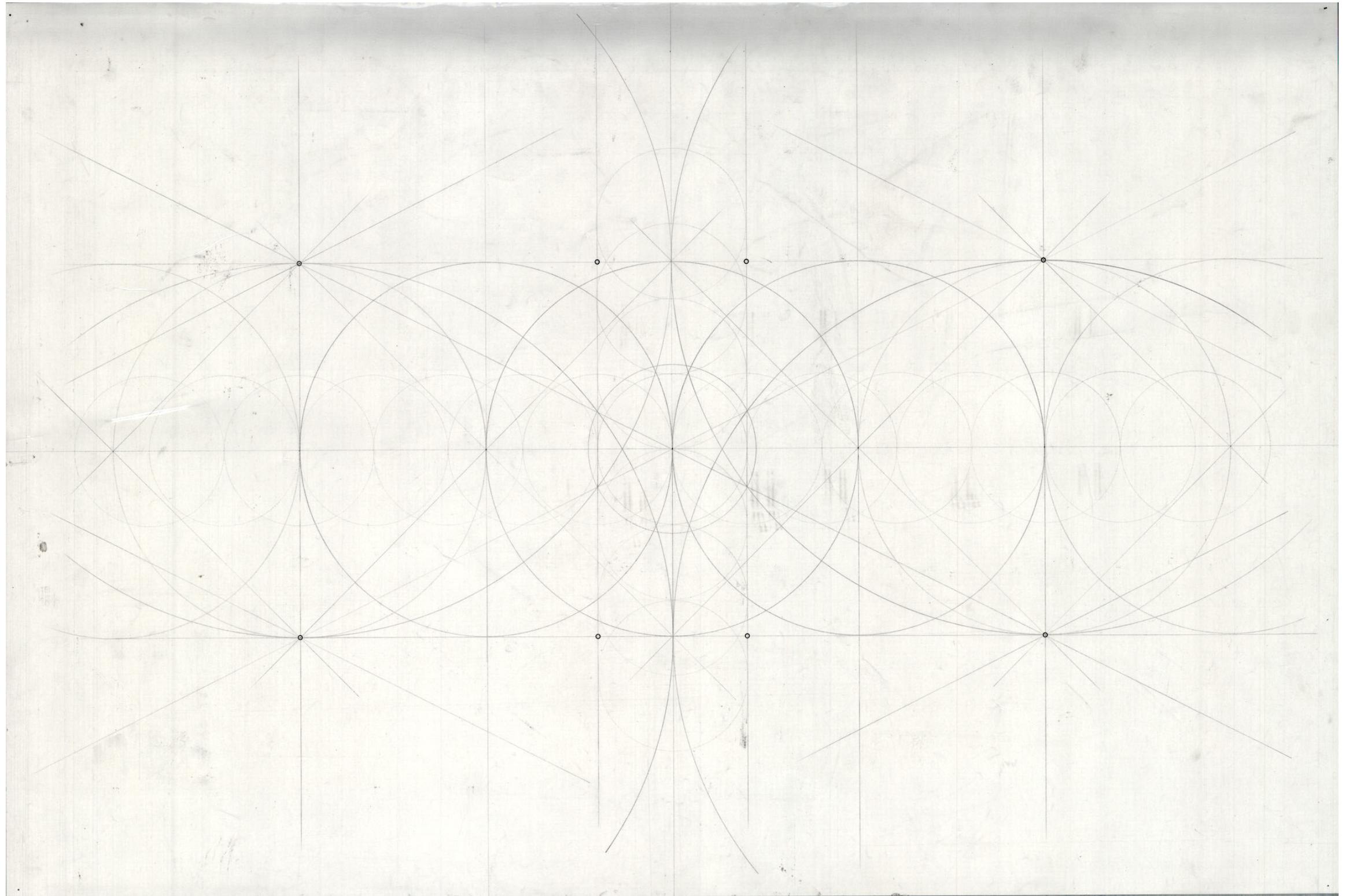
I say these things to make clear that the product of this thesis is merely an attempt at achieving truth, and not necessarily the most or the only truthful house that could result from this approach or from different approaches aimed towards a similar truth. In fact, it is sincerely my hope that other such houses would be designed, by myself and by others.

However, the design of this house had to start somewhere. Considering that the place of this house would be on a Main Street, or whichever street that possesses the character that I have previously described, in some Connecticut town with early colonial roots, the most appropriate place to start was undoubtedly where the last sincere search for architectural truth left off.

Moving forward, most of the commentary will be abbreviated so that drawings are allowed to speak for themselves. In some cases, a brief explanation of thoughts associated with a stage of design will accompany drawings. However, as the thesis progressed, the design gradually became more balanced between thoughtful and judgmental. A little more of the thinking came at the beginning and middle, while a heavier dosage of the judgement reigned towards the end. Both acts, nonetheless, had truth as their aim.

*Pencil on paper (24"x36").
Constructed geometries of a 2:1
rectangle which come into play
in determining the proportional
rules for the house shown
subsequently.*

DRAWING 3 ►



Proportion and Form

After studying many of the early housing forms in Connecticut, it was clear that proportions were at play as ordering devices, particularly in plan.

Whether this was intentional is not so clear, but that was really not of concern for the sake of this thesis. *Because* some sense of an ideal proportion existed in the early architecture of Connecticut, and because it still echoes back and forth across “Main Street” off the many early houses that have been preserved, the design for this house started with proportion. It started with proportion as a means to connect with place, as a means to realize the ideal proportion never fully achieved during the early housing periods, and simply due to proportion being an appropriate starting point for any design.

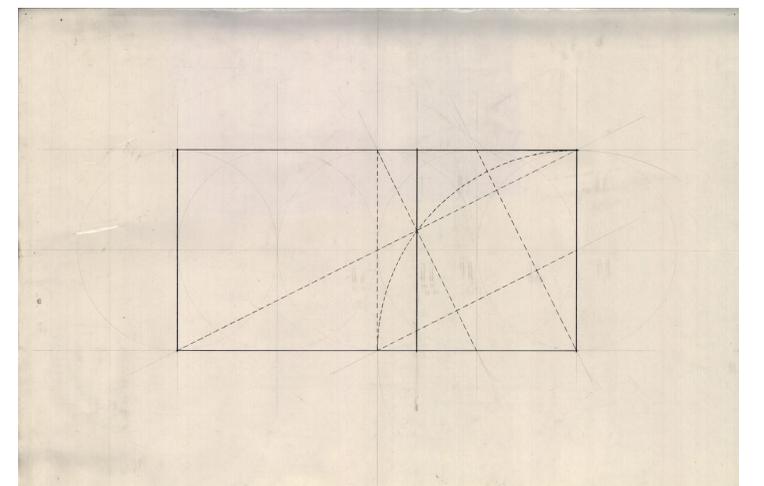
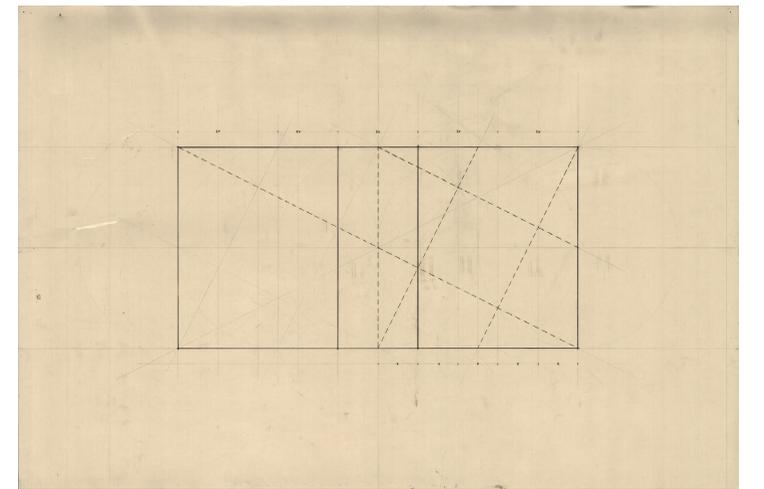
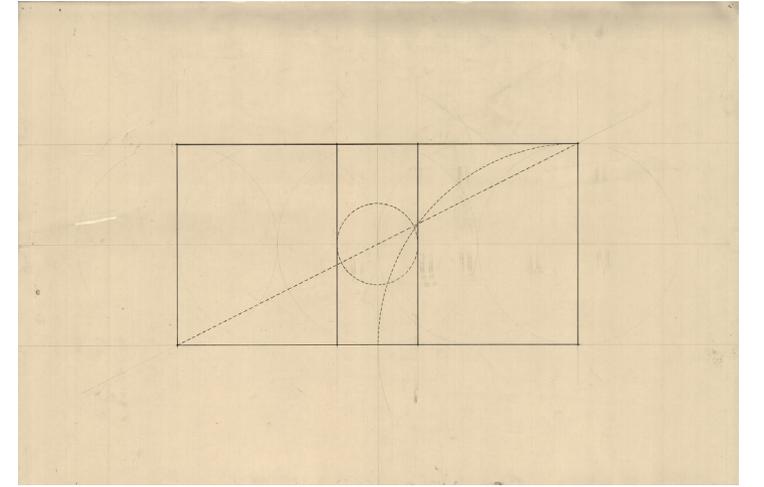
I selected the two-room house of the earliest period in Connecticut housing as the form from which to base proportion off of. Although it was the simplest form in Connecticut housing history, its underlying proportion emanated throughout the later housing periods.

Drawings 4-6 show the development proportional rules in plan. *Drawing 7* shows a three projection construction of these proportional rules in plan rotated up into the other two vertical dimensions, where additional adjustments were made to develop the form of the house.

There can be no definitive statement made here that this was the ideal never fully achieved in the early houses of Connecticut, but I do believe it reflects a purity and truth that the evolution was moving towards. And, therefore, the proportion and form described here and by *Drawings 4-7*, was the foundation of design decisions moving forward.

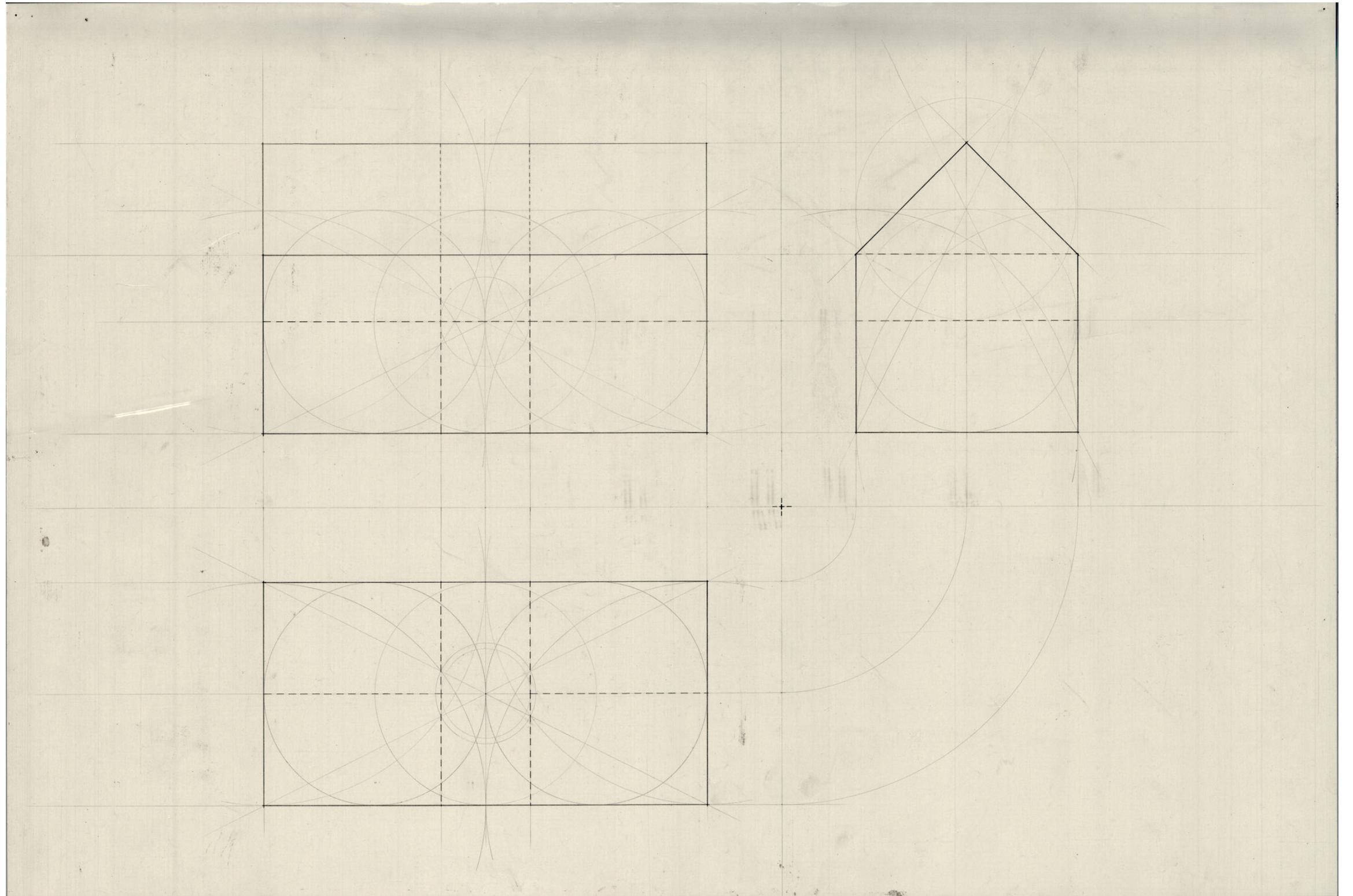
Pencil on paper (24"x36").
Proportional break-down of a 2:1
rectangle into three bays. Two
different methods shown, and
then an overlay of both methods.

DRAWINGS 4, 5, 6 ►



Pencil on paper (24"x36").
Three projection drawing of the
ideal proportions and form for
the house.

DRAWING 7 ►



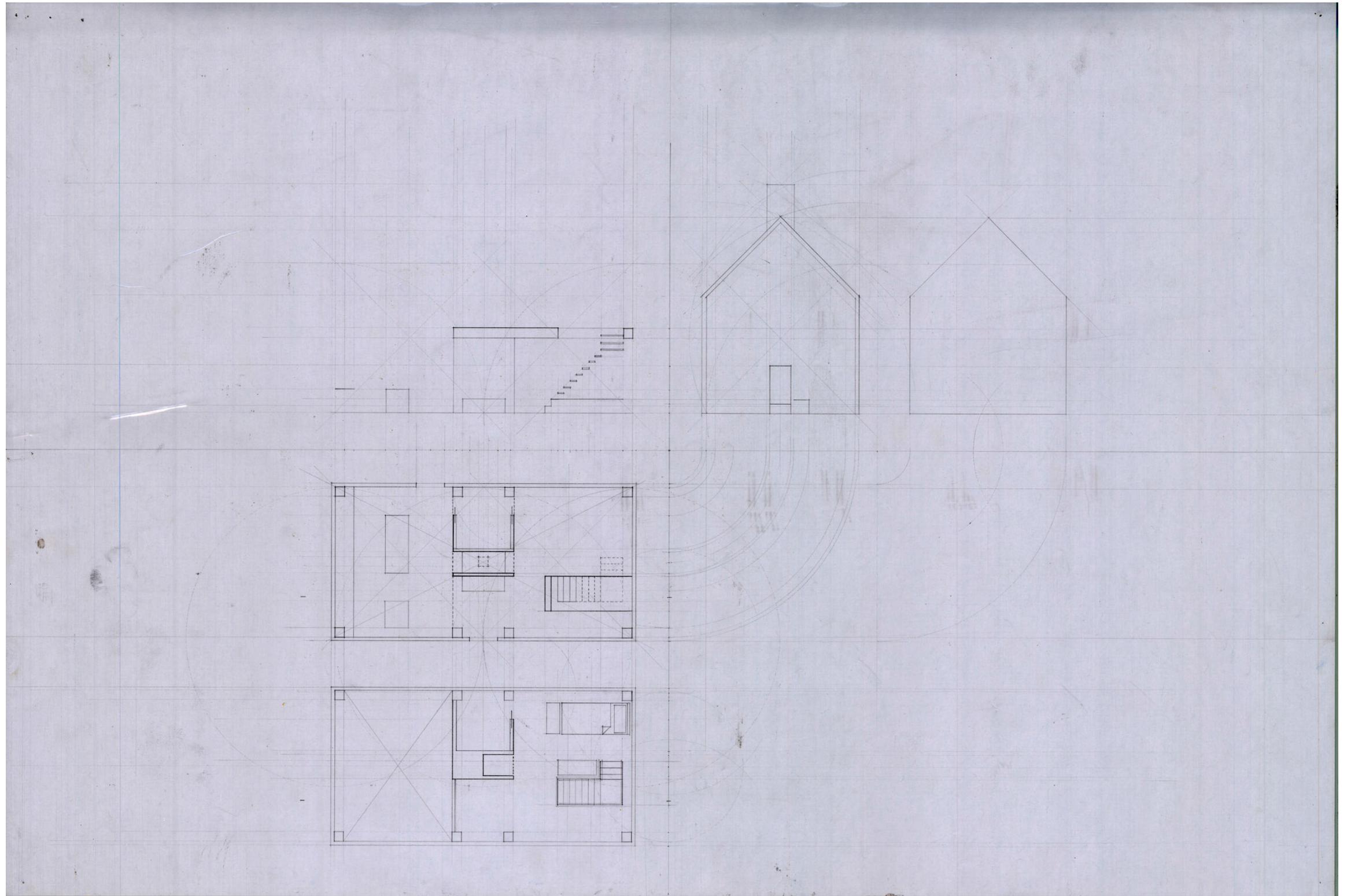
With a pure form and basic set of governing proportional rules in place, a first attempt was made at simply designing the house. Although I had partly shed all ideas about specific elements, structure, materials, room layouts, etc. for the sake of finding proportion and form in the steps above, it was necessary to at least briefly bring those things back into the picture to begin to get a sense of how, or if, everything could work together within what had been established.

I started the house as nothing more than a slightly new take on the two-room plan house, and as a heavy timber framed structure. I found the two-room plan, and the way of life it suited, to be quite fitting for a contemporary house as well. What would have been the “hall”, the more public space where typical daily tasks were performed, could now become the kitchen, dining, and guest hosting room of the house. The “parlour”, the more private space for valuable possessions and intimate family interaction, could now become the living room. And as the second floor of early two-room houses was often referred to as a sleeping “loft”, I thought it appropriate to have it be an actual lofted space, extending only half the length of the house, and leaving the kitchen space open to the full height of the interior. Some of these ideas aren’t fully fleshed out here, as the drawing began asking other more pressing questions to be answered with other drawings, but they generally stick around throughout the evolution of this house.

Questions about scale, edges, corners, elements, and structure were some that quickly arose during the incomplete execution of *Drawing 8*. Consequently, some preliminary answers to those questions will follow in the “Middle” portion of this thesis.

Pencil on paper (24"x36").
Partial first draft of the house,
with proportions applied to plan,
section, and elevation.

DRAWING 8 ►



Parts and Whole

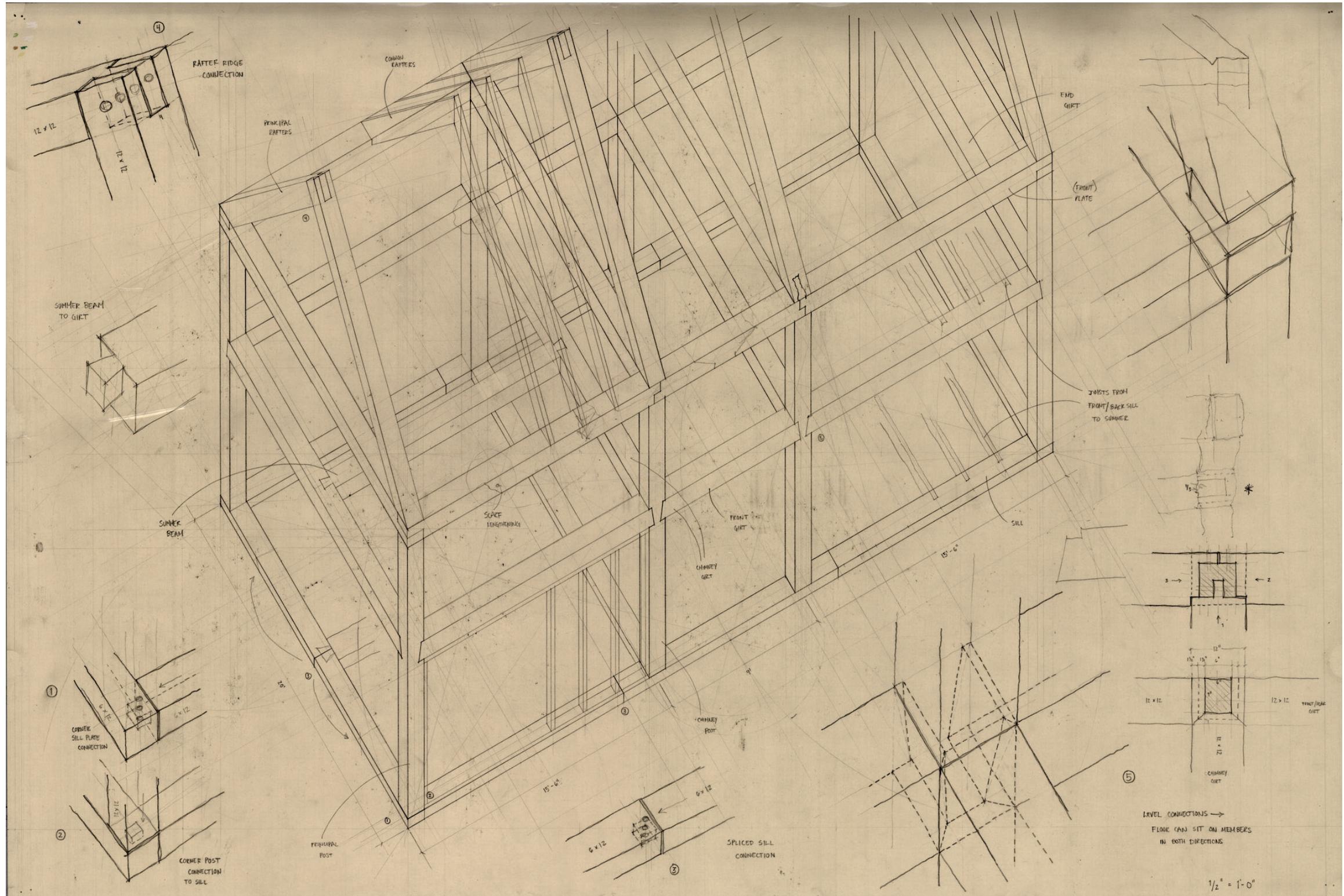
Designing the structure of this house was one of the most essential parts to this thesis. The form, the material, the size of the members, the spans, the joints, and the structural exposure on the exterior and interior would all be deeply intertwined in the ultimate expression of the house.

So I took a big step back from attempting to design the house to look at the heavy timber structure in isolation. Though it was not in complete isolation, as the rules of proportion and a ideal form were established, which were governing or guiding things at this point.

This portion of the thesis is where the relationship of parts and the whole really start to matter. Of course, when figuring out proportion and form, there were already considerations about parts and the whole, but more on a geometric level. Here, things begin to get constructive. In other words, the proportion and form that were established merely consisted of lines in space, which do not and can not actually exist. Not to take away from their value and vital role, but they were just guides and goals for the actual construction of the house, which must deal with dimensions, connections and the other things required to put something together. So now it was about figuring out how to put the heavy timber frame of this house together, yet still preserve the desired proportion and form. *Drawings 9 and 10* begins to answer many of these questions.

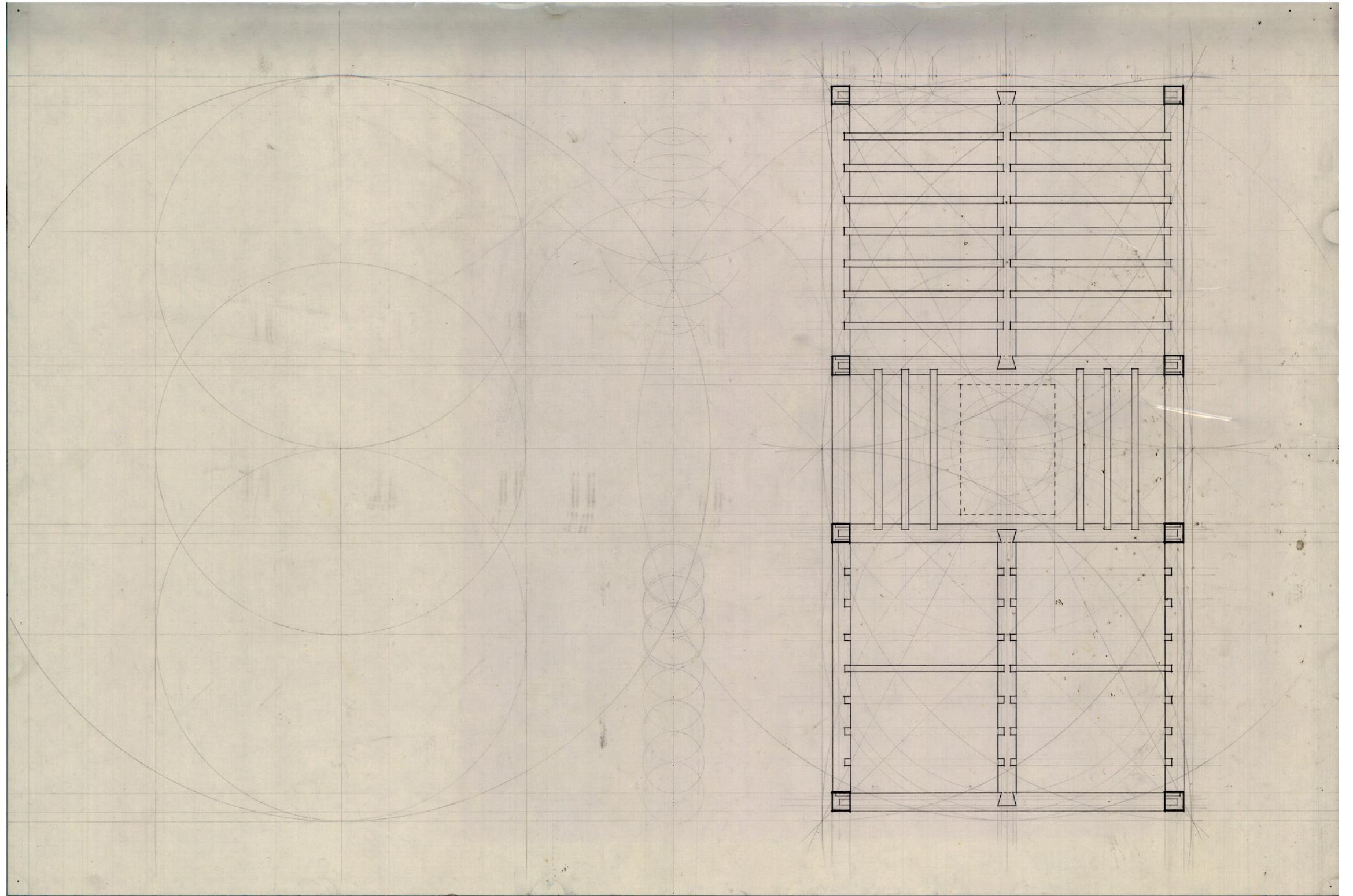
*Pencil on paper (24"x36").
Oblique drawing of the heavy
timber frame with sketch details
of primary joints.*

DRAWING 9 ►



Pencil on paper (24"x36").
Early draft framing plan for the
second floor.

DRAWING 10 ►



Practical and Symbolic

When designing a house true to a time and place, and, accordingly, studying houses of the past for guidance, one has to look carefully at and contemplate intensely on the nature of the elements that make up a house. For example: What is a chimney? Why is a chimney? Does a house need a chimney? Does a chimney need a house? Where does the chimney go in a house? Is a chimney today the same as a chimney 300 years ago? The questions regarding each element can go on nearly endlessly. And there is justification in asking such questions. Unfortunately, many contemporary houses are designed by mindlessly combining elements considered to be essential without an understanding of their nature. This mode of design is particularly dangerous when using the past as a precedent, and the results can have multiplicative effects on the future. With this in mind, I looked at many specific elements very closely during the design of this house. I looked at elements that existed in the early houses of Connecticut, and I looked at elements common to many houses built today. There was no exact set of questions asked of each element looked at, but the following offers a glimpse at some of the contemplation that went into the design.

Of elements that existed in early Connecticut houses I asked: Did it exist as a practical, functional element, or did it exist as a symbolic element? If it was a practical element back then, does its function still have a role in the contemporary way of life? If not, does it have a role as a symbolic element in the present? If it was a symbolic element to begin with, does that symbolism still hold the same weight today? Is that symbolism still recognized? Or has what an element symbolized changed to symbolize something else? In either case, how would an element of the past be constructed today, if historic precedent was not considered, and construction of the element was simply executed by the best, most appropriate means of today? And is this being done?

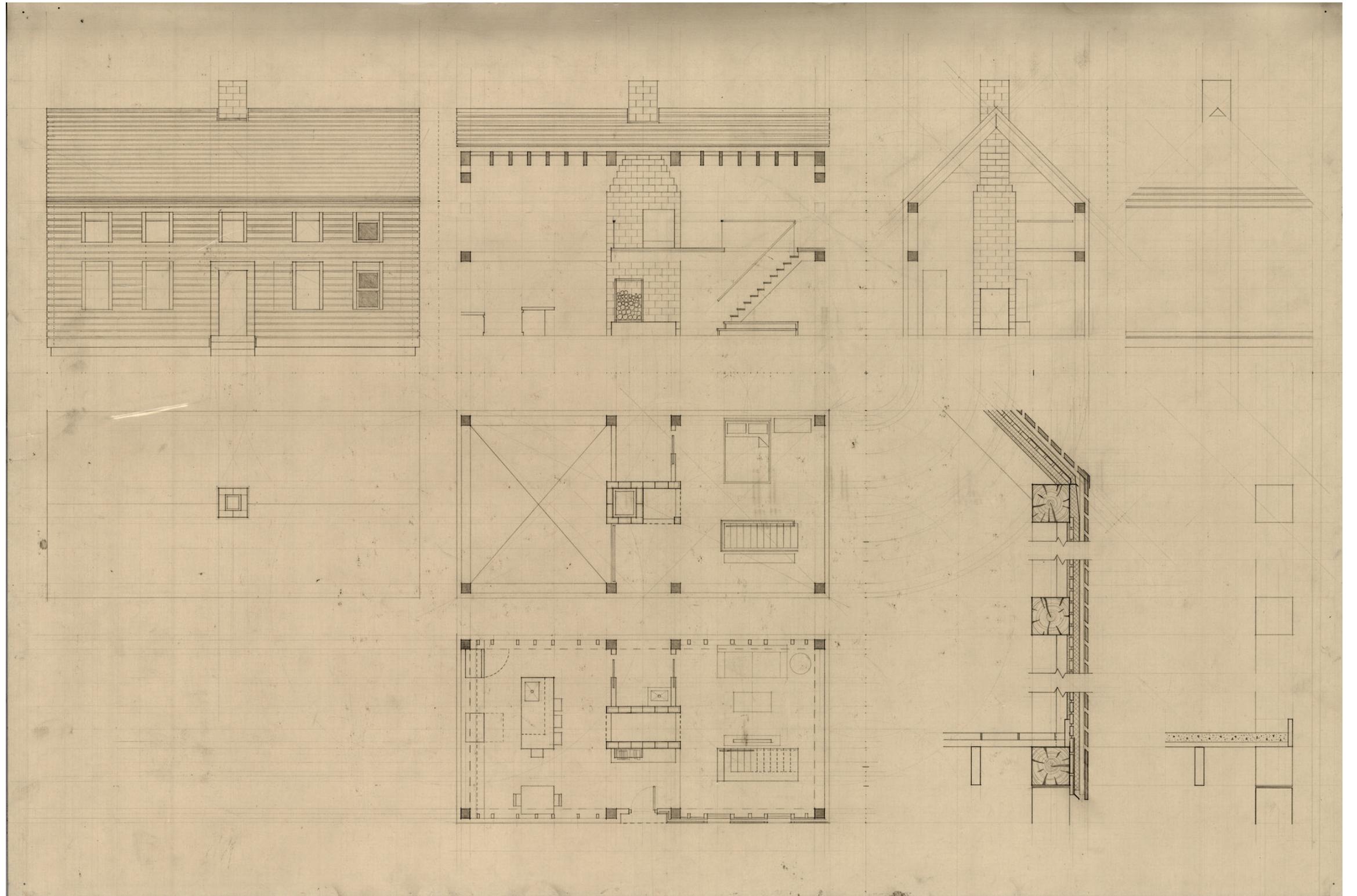
Of common contemporary elements I asked: Did it exist in houses of the past? (If so, then the questions above had already been asked). If not, again, is it a practical or symbolic element? Was its role in either case served by a different element in the past? *Could* its role be served by a different element common to a house of the past? How should a new element relate to an element of the past if both used in a contemporary house? Are there symbolic elements that are necessary to establish a houses as a house?

In general, these questions mostly pertaining to practicality and symbolism helped determine if and how past and contemporary elements would be part of the design in this thesis. They helped determine whether or not there is potential truth to certain elements in a house on a Main Street in Connecticut, and, if so, how that potential could be best achieved.

Some particular elements that received much consideration include: front door, windows, overhang, chimney, fireplace, mantelpiece, stairs, roof, bathroom, structure (particularly the summer beam and the scale), cladding, appliances, and some furniture. **Drawing 11**, another incomplete draft of the house, begins to incorporate, or eliminate, these elements after their truth had been contemplated in regard to place and time.

Pencil on paper (24"x36").
Partial second draft of the house;
plans, sections, elevations, and
exterior wall detail.

DRAWING 11 ►



END

The first two sections of this thesis, the beginning and the middle, consisted of a lot of work deeply connected to but ultimately outside of the design of this house. They dealt with thoughts, desires, intentions, studies, applications of studied things, and some adjustments and evolutions of those applications. In other words, the work of this thesis up to this point was dependent mostly on things created before this thesis. As I have mentioned though, this was a necessary start for designing a house true to a place, and particularly true to the history of a place.

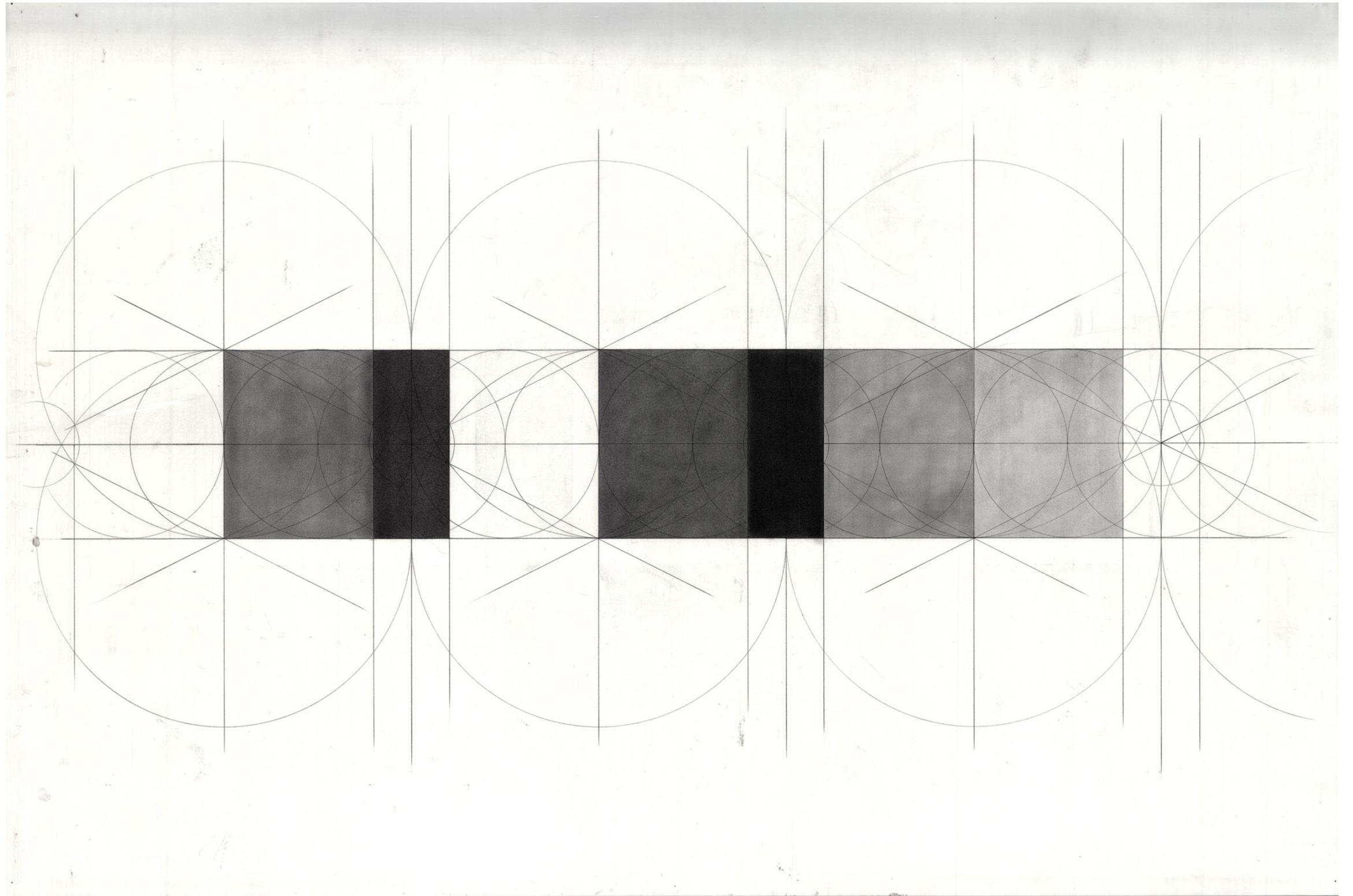
On the other hand, the remainder of this thesis, what I am calling the end, happened mostly independent from direct outside guidance. What had been studied, learned, and applied to the design of the house so far formed a sound foundation of rules and principles. But the design moving forward would simply grow from itself and be judged against itself. Each drawing executed would be an evolution of a previous drawing, no matter the scale. And each drawing would provoke another drawing, further evolving the design of the house.

As a result, there are very few “complete” drawings in this thesis, if any. The design of the house as it stands, is best understood by looking at all of the drawings, tracking their evolution, and applying ideas from one drawing to another drawing.

Nonetheless, the drawings that constitute the end of this design process really balance out this thesis. While everything executed previously primarily ensured that this house would be true to a place, the following drawings, and the decisions that went into them, were aimed at making this house true to a time, true to now. Through extension of proportions, reworking of elements, abstraction, detailing, implementation of modern construction techniques, and use of modern materials, this house was transformed from a simple house based on the two-room plan of an early Connecticut house to a genuinely modern house, reflective of the current conditions and contemporary way of life, but still deeply connected the truthful houses that came before it.

*Pencil and graphite powder
on paper (24"x36").*
Tonal proportional diagram of the
house in plan. Tones correspond
to levels of natural light in each
bay of the house.

DRAWING 12 ►



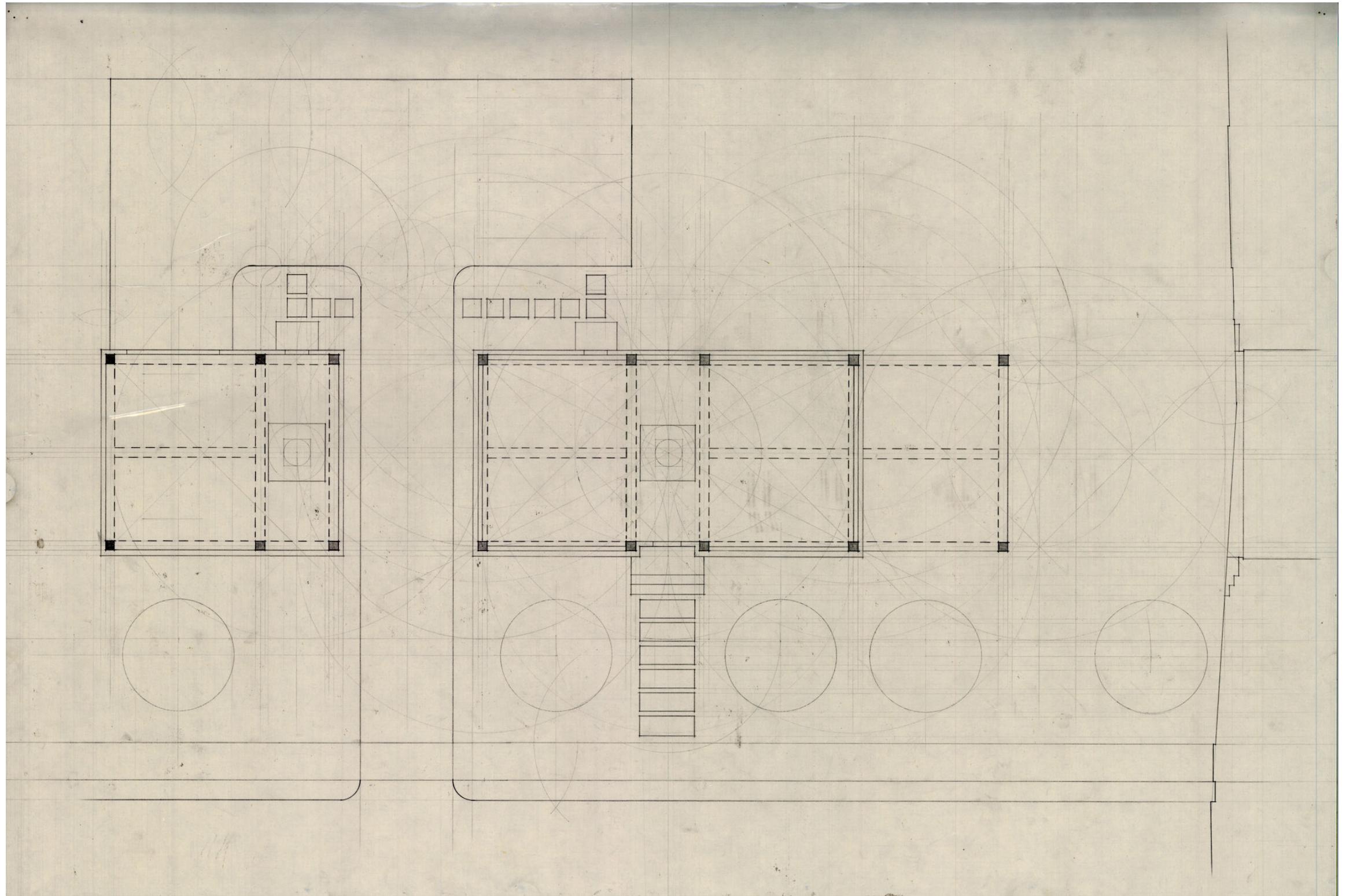
One of the first decisions made during this stage was to expand the house from a two-room plan building to a composition of forms, which could house within some spaces that satisfy a typical contemporary way of life.

Drawing 12 demonstrates how this expansion was executed using the proportional rules established in the previous section. It was determined that the house must grow based on the proportional rules, in this case several reflections of the proportions in plan, rather than a mere extrusion of the gabled form. This would ensure that the proportions in elevation and section would hold their relationship to the proportions in plan, and maintain the overall purity of form. The result also could be described as form created by proportional, and structural, rhythm.

Drawings 13 and 14 show the expanded house in plan and elevation. The additional bay connected to the house proper is an unclad extension of the structural frame covering an outdoor patio-like space. And on the other side of the house, separated by a bay width opening for the driveway to run between, is another chimney bay attached to a garage-barn space. In **Drawing 14** in particular, it is evident that, despite sharing proportional rules, a clear hierarchy has been created among the composition. The original form of the house sits clearly atop this hierarchy, with its symmetrical, articulated facade full of windows and the larger central chimney popping through its roof to ground the house and reveal its central axis, while the adjacent extensions in the composition balance each other out.

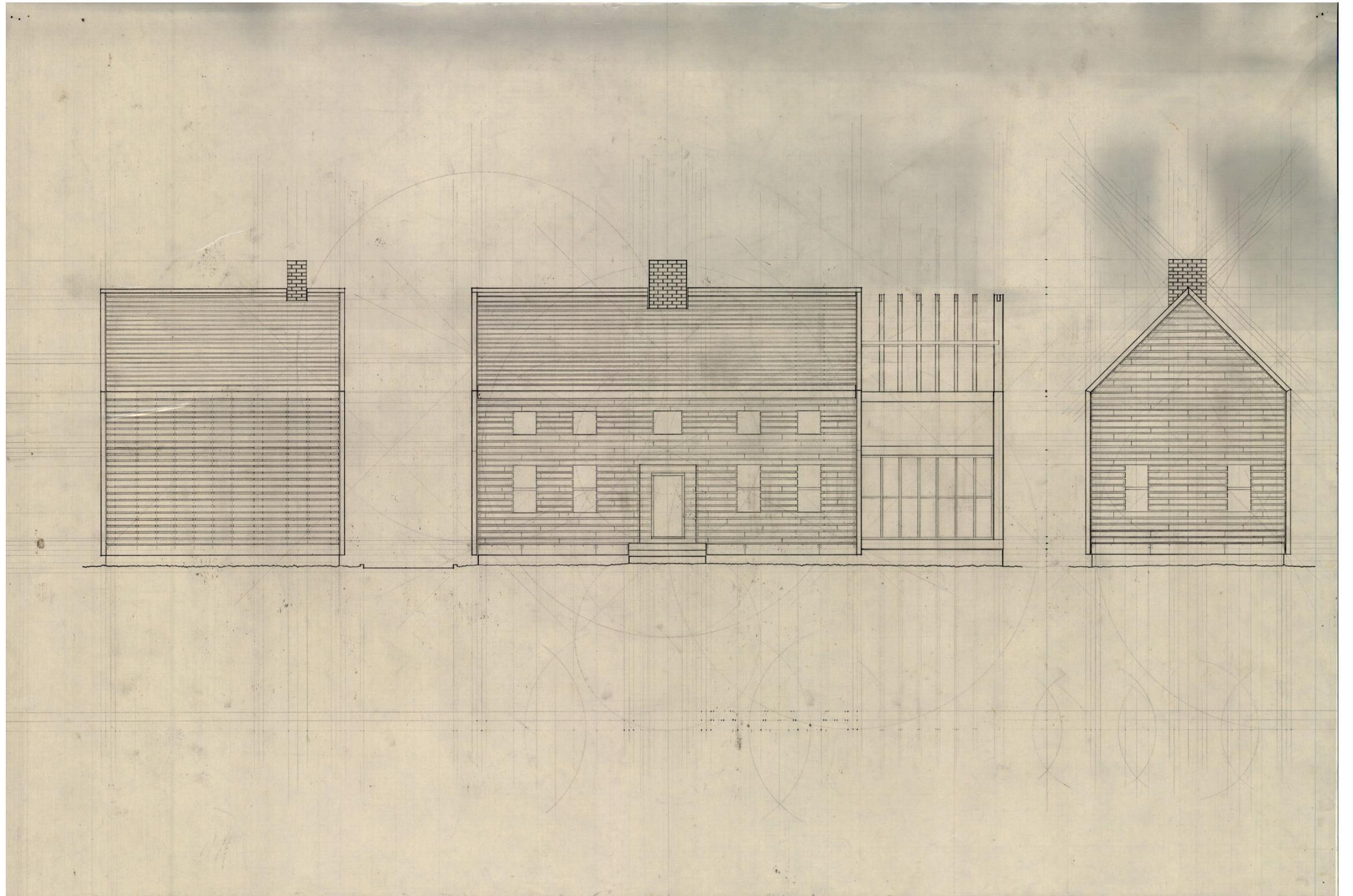
Pencil on paper (24"x36").
Preliminary site plan for the
house, showing the extended
plan of the first floor.
Exact site still undetermined.

DRAWING 13 ►



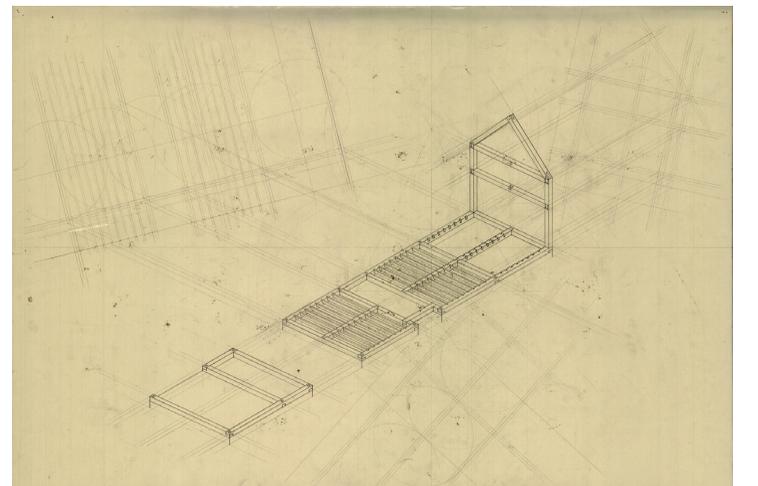
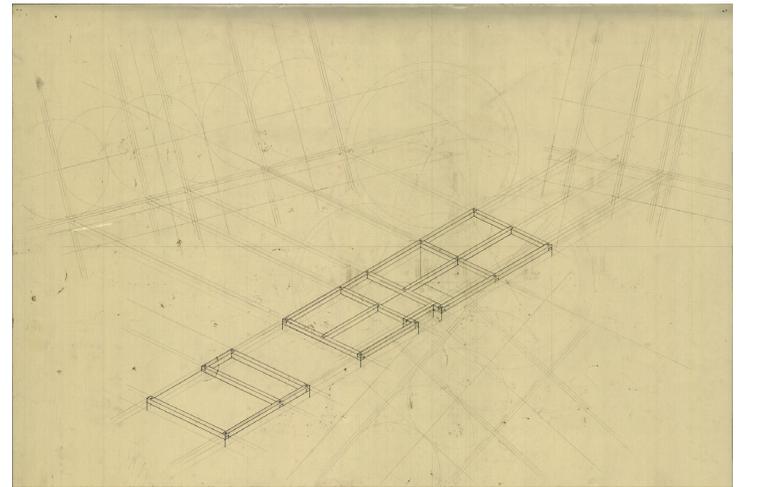
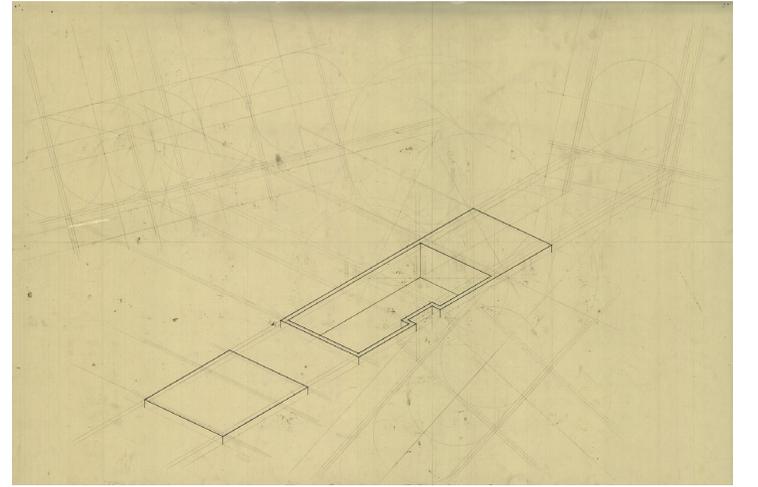
Pencil on paper (24"x36").
Preliminary front and side
elevations of the extended house.

DRAWING 14 ►



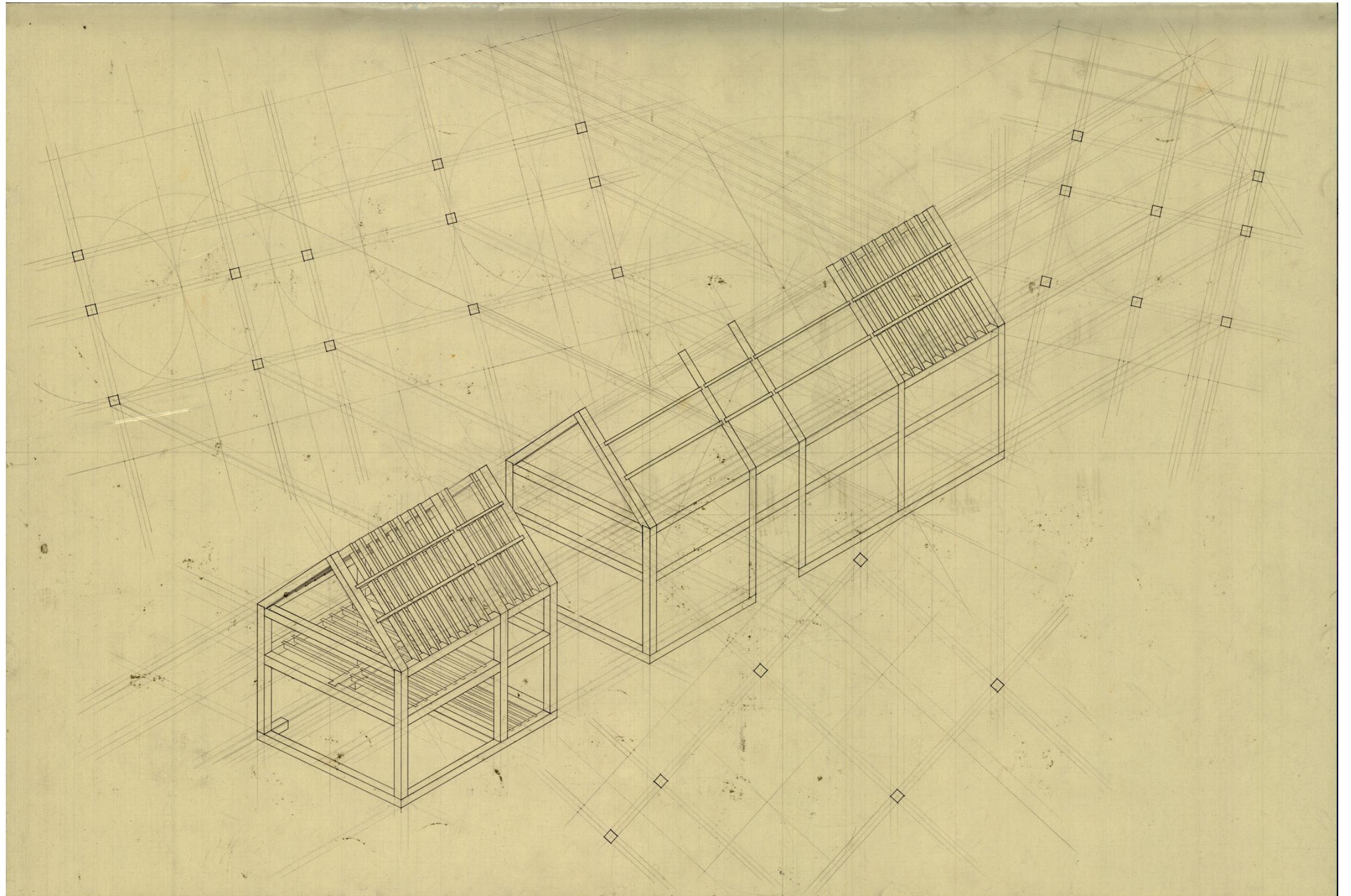
Pencil on paper (24"x36").
First three phases of frame
erection, from foundation, to the
laying of sills, to the first bent of
the timber frame being raised.

DRAWINGS 15, 16, 17 ►



Pencil on paper (24"x36").
Partial construction of the entire
timber frame of the house.

DRAWING 18 ►

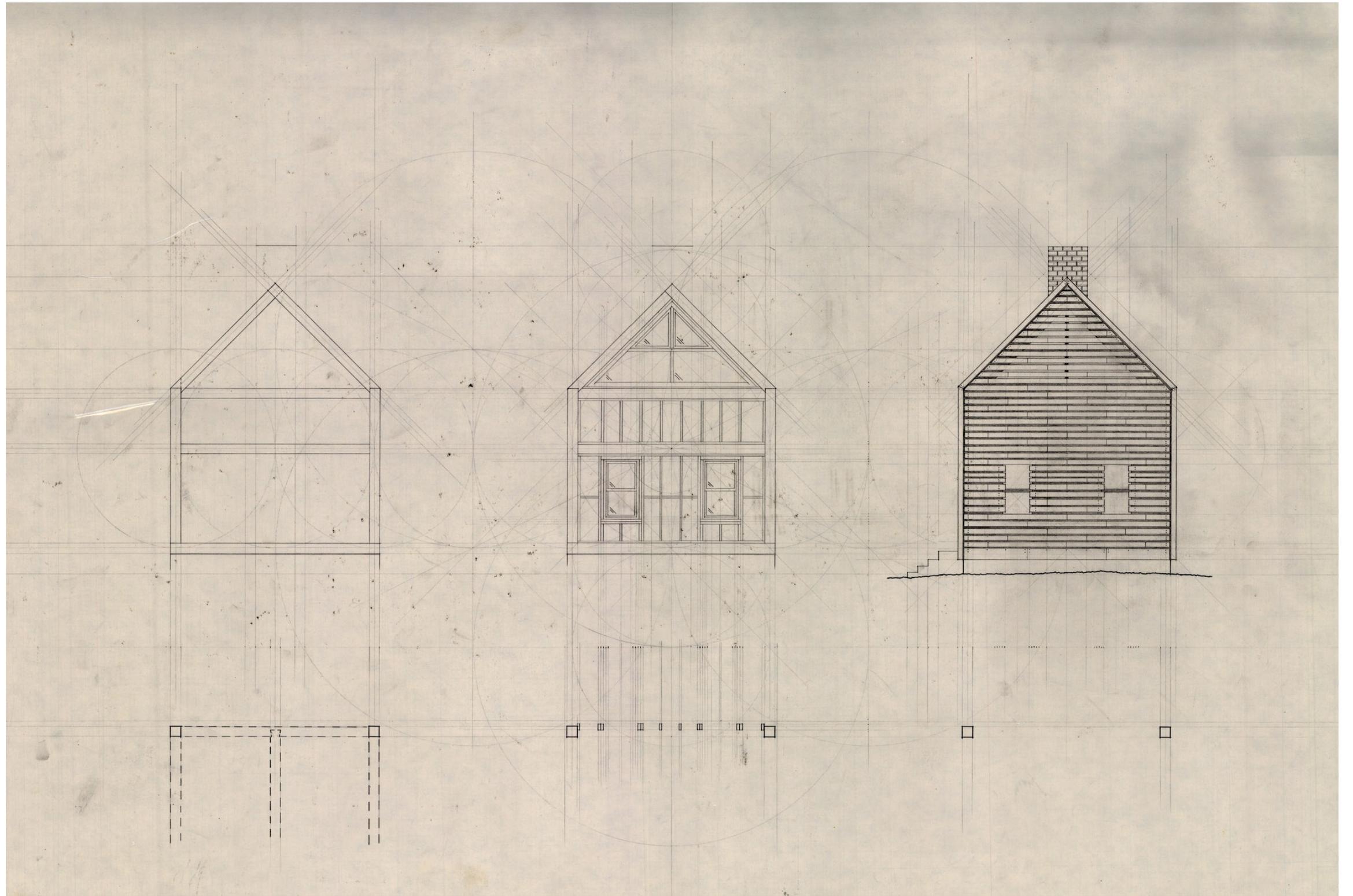


Another important decision fleshed out early on during this end portion of the design of the house was the relationship of windows to openings and cladding. While significant natural light was the desire, I did not want the elevations of the house, the proportions governing them, and the connection to early houses on “Main Street” to be compromised by punching large holes in the facade, even if proportionate. To satisfy both conditions, I chose to clad the house in a rain-screen-like skin of cedar slats, which would be somewhat pulled away from the actual enclosure and secondary frame of the house behind. This would allow for openings in the slats to be of the right proportional size, while the windows behind could be of larger dimensions. Portions of glazing behind the slats, or glazing entirely covered with slats, could still receive light through the gap in the slats.

Drawing 19 shows a series of side elevations of the house in different phases of construction to demonstrate the design decision outlined above. ***Drawings 20 and 21*** show more of this design feature and some further extensions of it in section.

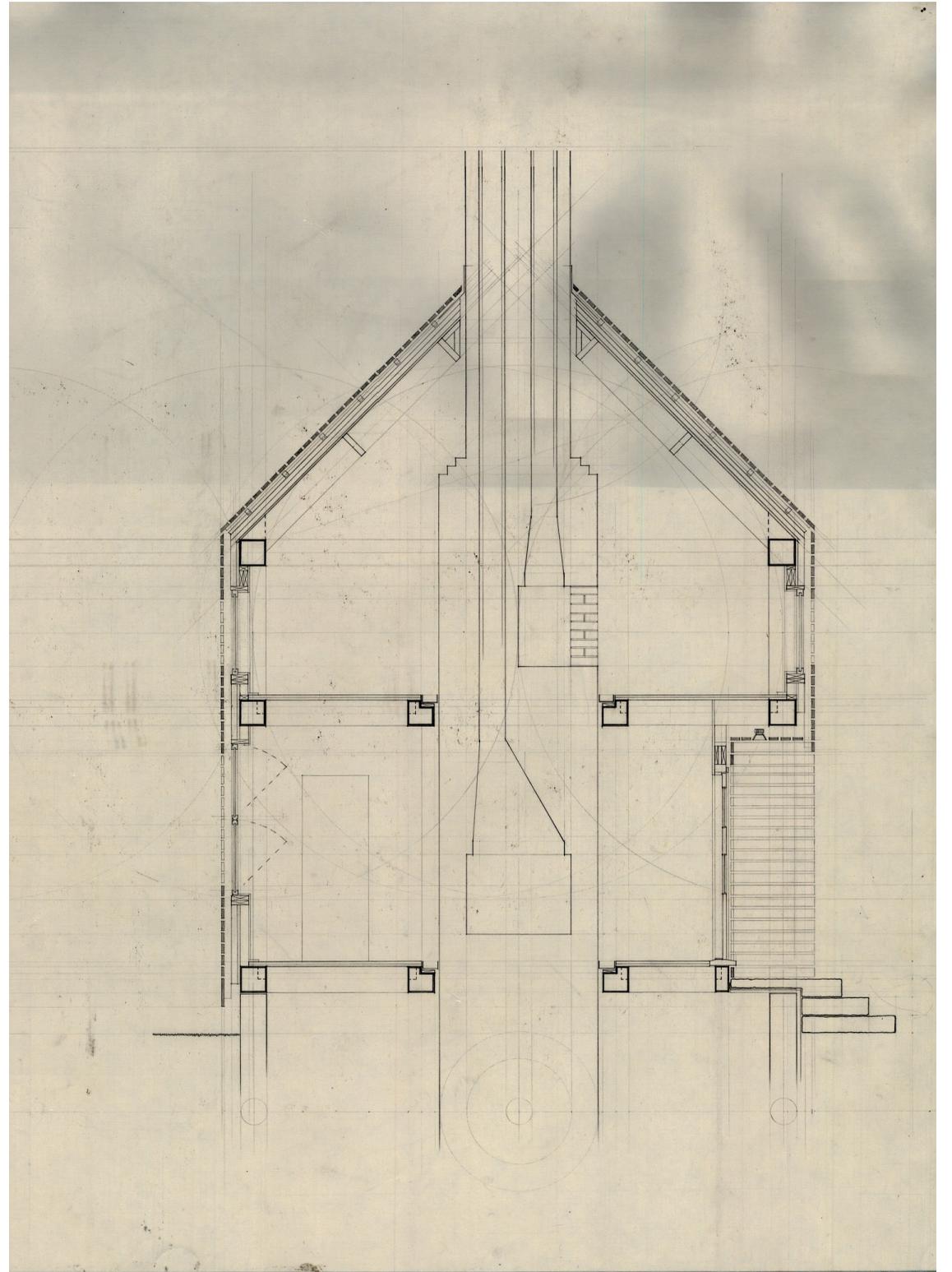
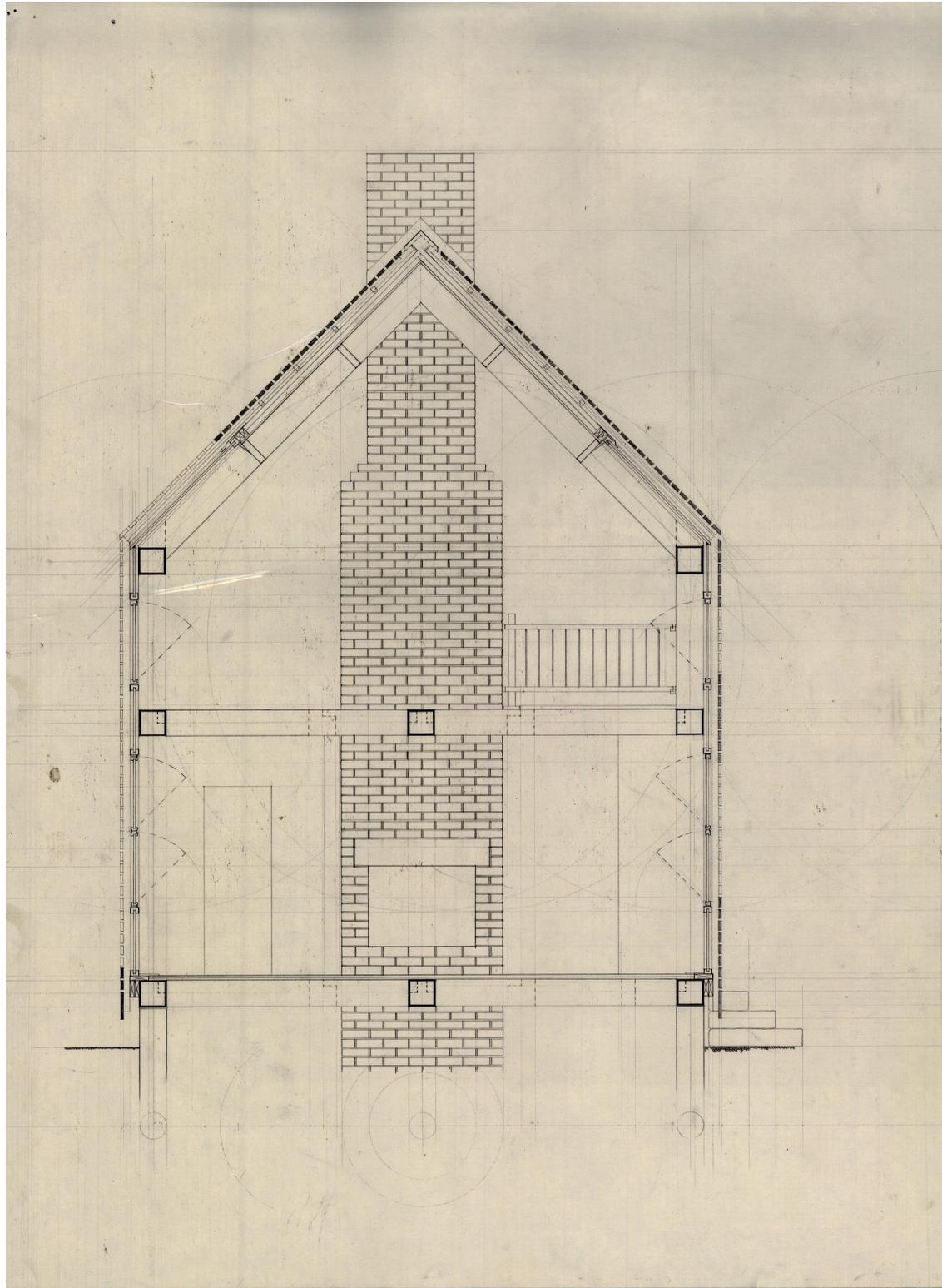
*Pencil on paper (24"x36").
Side elevation of the house,
shown in three phases of
construction to demonstrate
cladding and window
relationship.*

DRAWING 19 ►



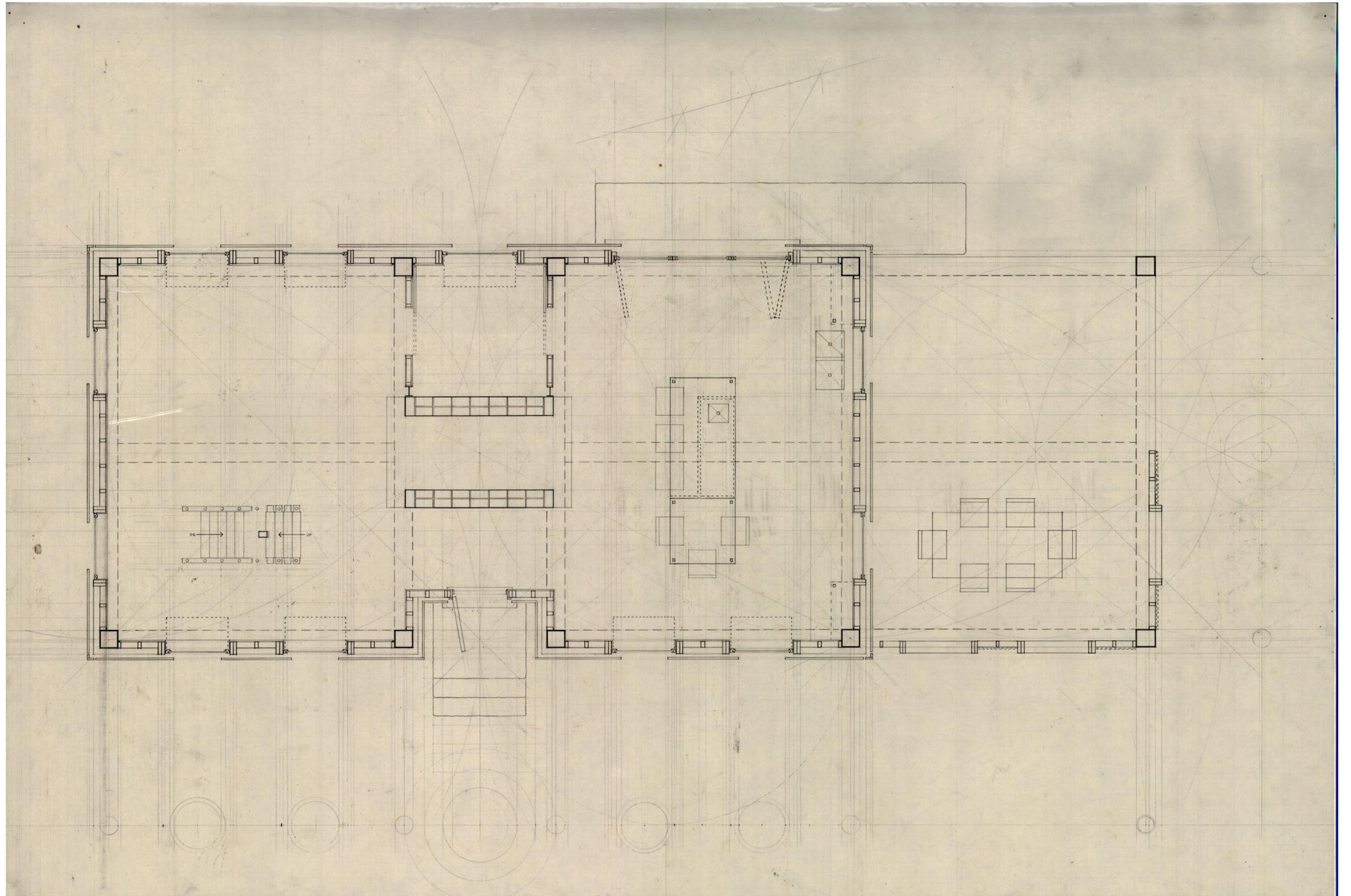
Pencil on paper (24" x 18").
Cross section through the full-
height, kitchen-dining space
of the house looking towards
the chimney. Shows windows
extending from floor to the roof
behind slatted cladding. And
cross section through chimney,
entry, and bathroom of the house.

DRAWINGS 20, 21 ►



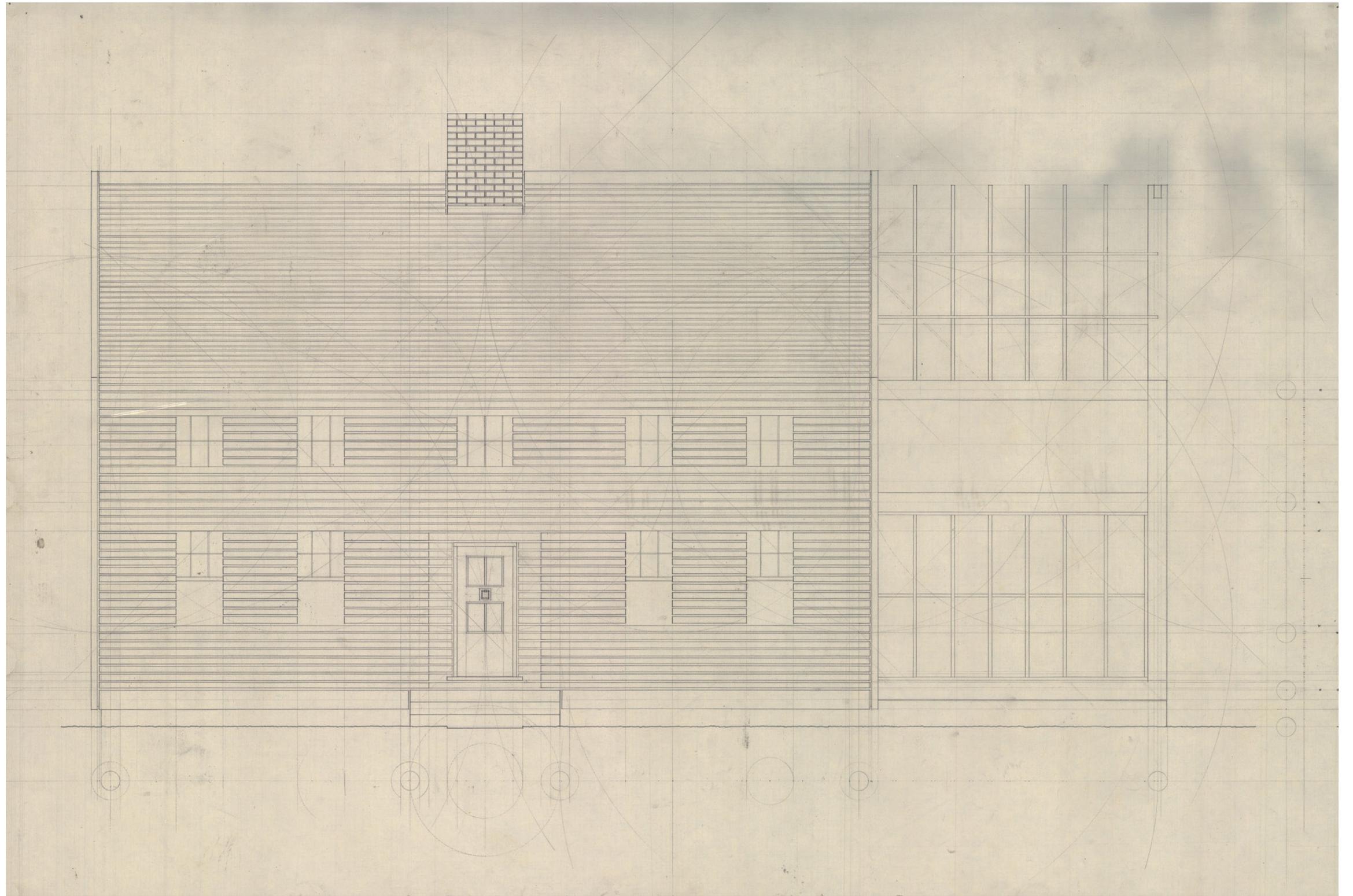
Pencil on paper (24"x 36").
First floor plan of the house
proper and open-air patio space.

DRAWING 22 ►



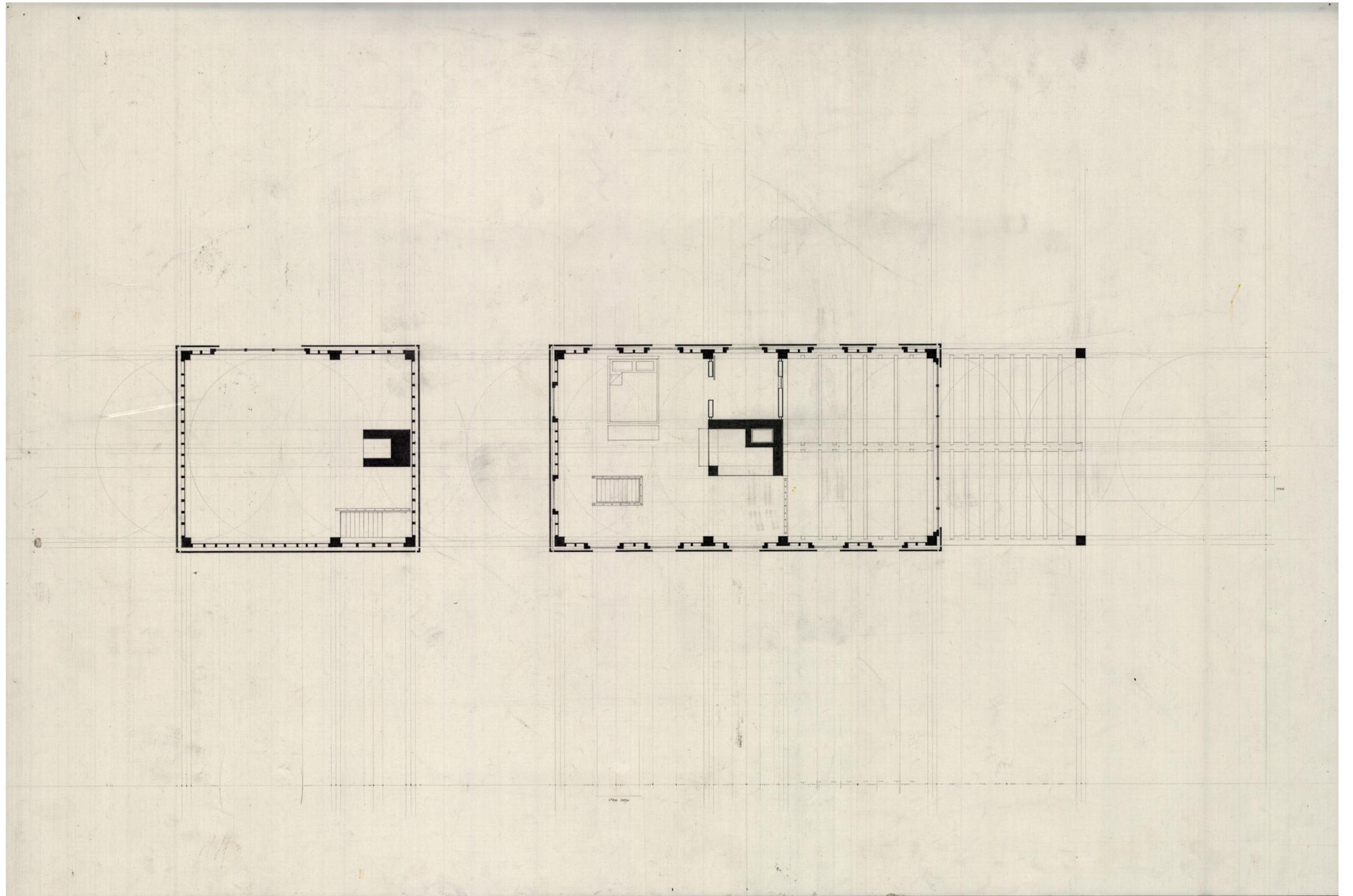
Pencil on paper (24" x 36").
Front elevation of the house
proper and open-air patio space.

DRAWING 23 ►



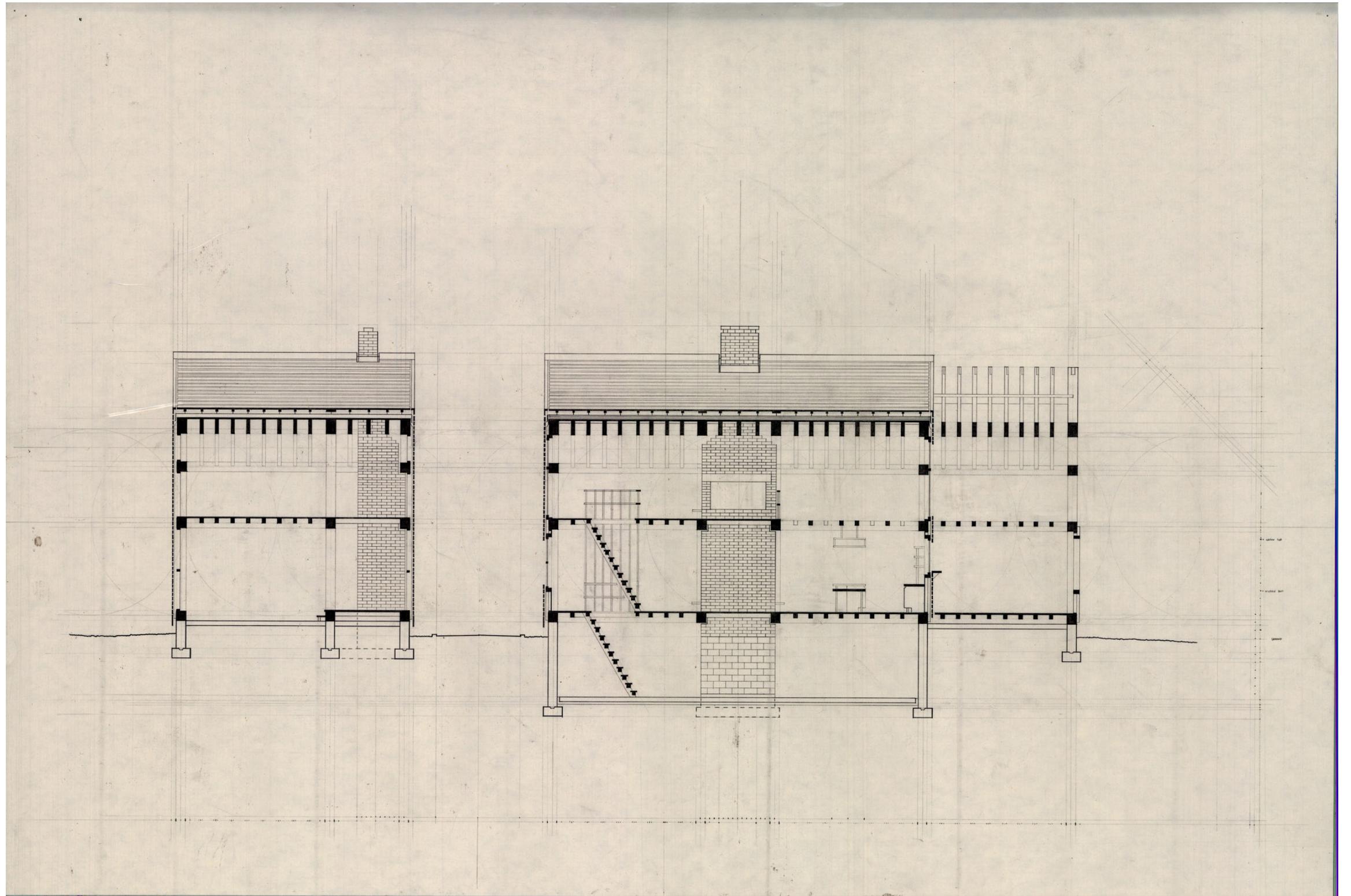
Pencil on paper (24"x 36").
Second floor plan of the house
and garage-barn.

DRAWING 24 ►



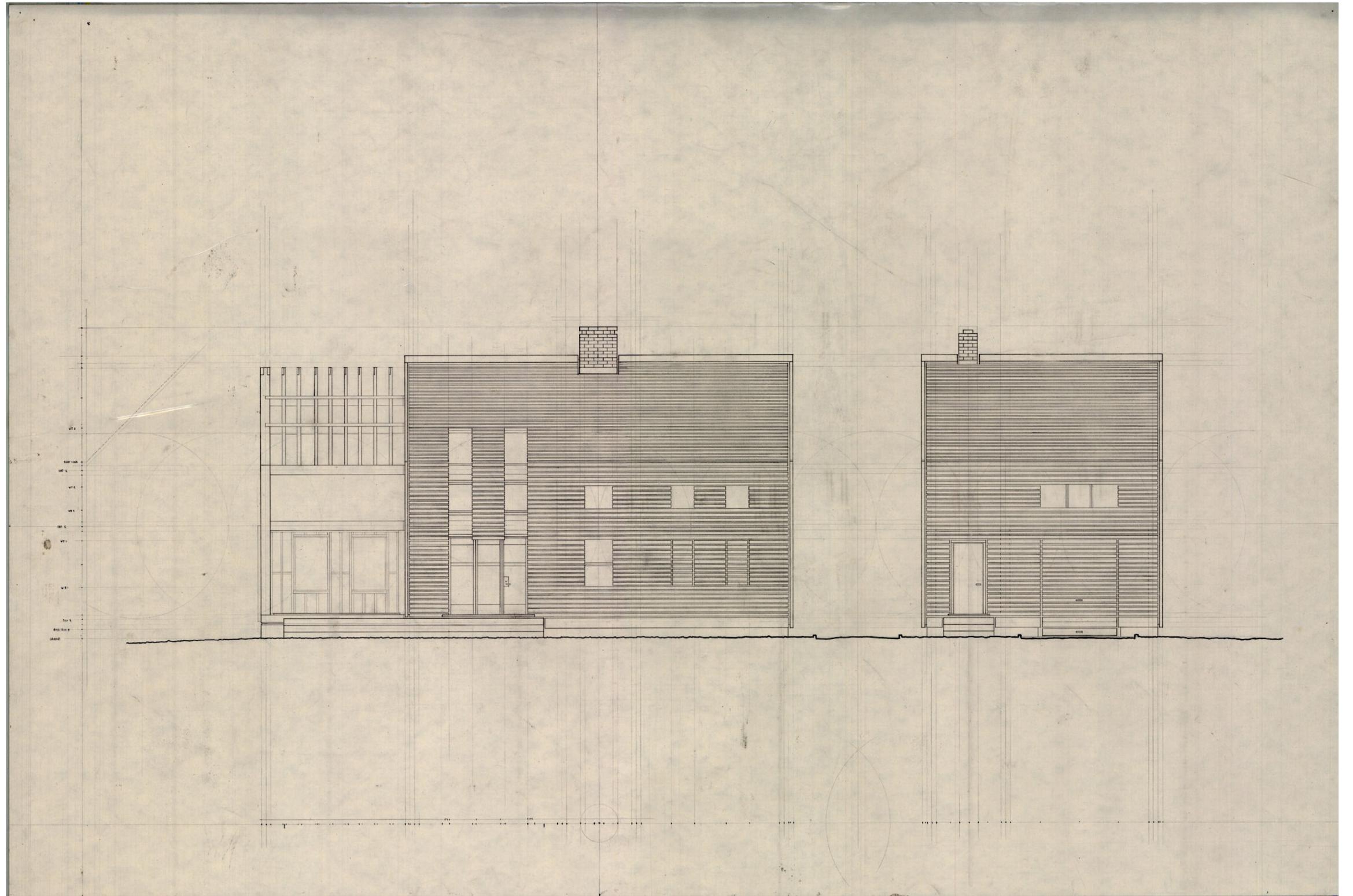
Pencil on paper (24" x 36").
Longitudinal section through the
stair and front entry of the house.

DRAWING 25 ►



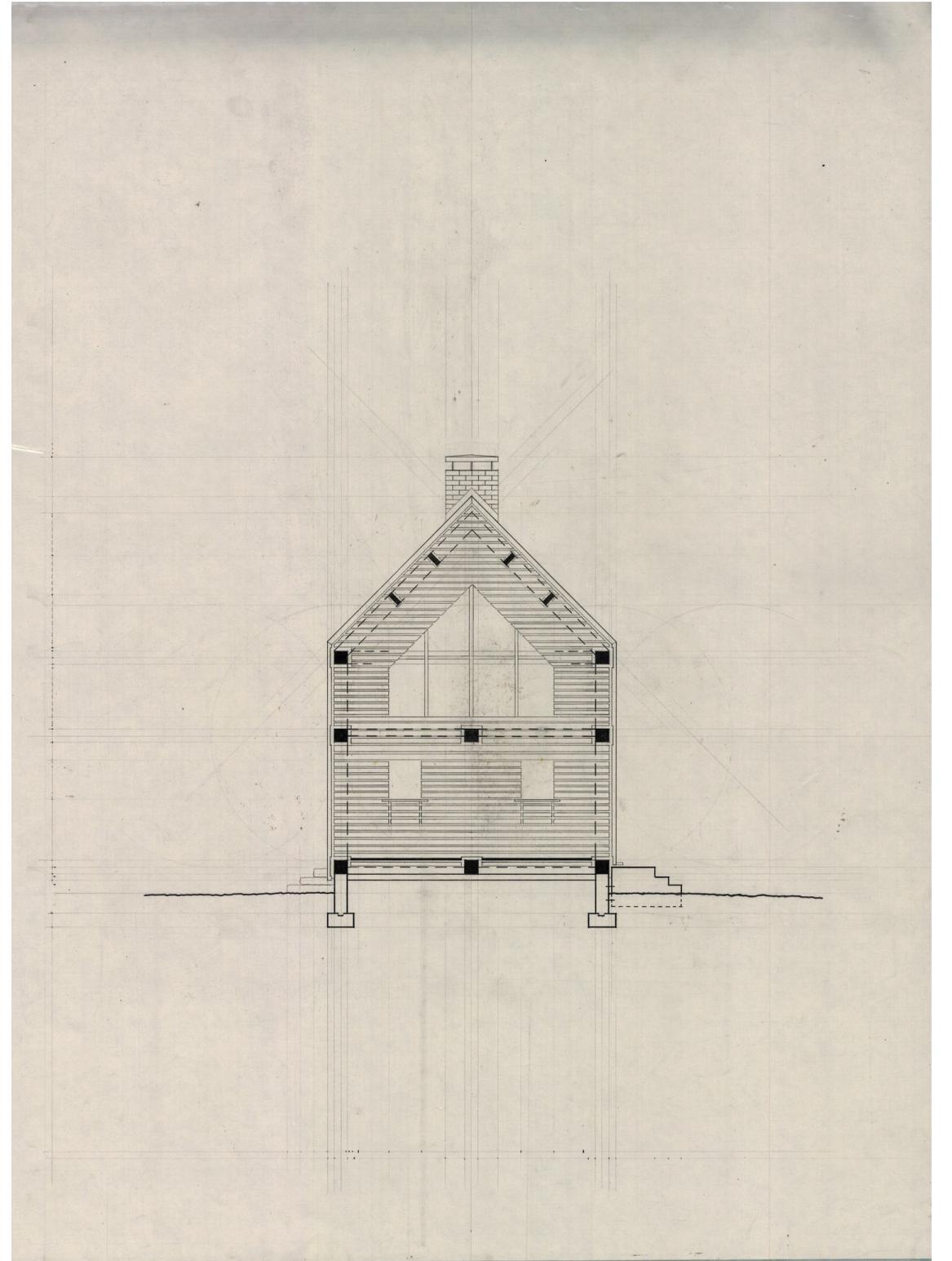
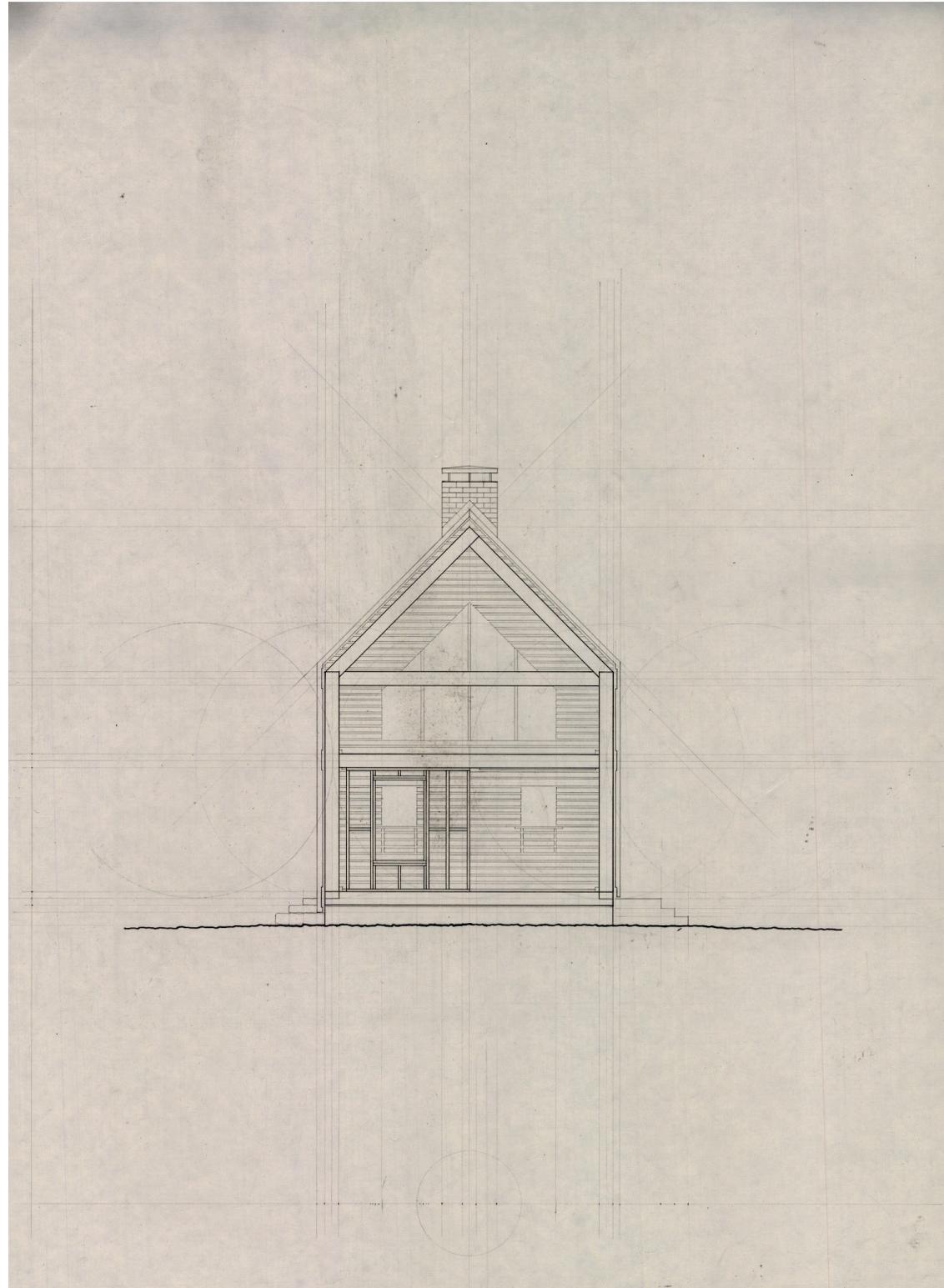
Pencil on paper (24" x 36").
Back elevation of the house.

DRAWING 26 ►



Pencil on paper (24"x 18").
Side elevation of the house
facing the open-air, unclad,
framed patio space.
And cross section through the
unclad frame, between the
exposed joists/rafters and the
cladding of the house proper.

DRAWINGS 27, 28 ►



Detail and Details and Detailing

While drawing all of the plans, sections, and elevations for this house during the last portion of this thesis, a lot of thought was put into how all of its various elements would come together at various scales. Some of this thinking obviously also started way back when the timber frame of the house was being designed for the first time. The goal then was to design a frame that would preserve the proportions and purity of form that had been established. The goal at this point was similar, but with the addition of preserving and reflecting all of the other principles of design that had come into play.

Accordingly, the drawings shown above were executed with a high level of detail, so that certain details were already apparent and so that others could be detailed further, and not stray too far from their representation at larger scales. I use three versions of the word here very intentionally for certain reasons.

When I say that drawings were executed with a high level of detail, I mean that they were drawn to show the house and its features with as much visually descriptive information as possible, when relevant. For example, I always drew the gap in the slatted cladding as two lines in section and elevation, rather than one line.

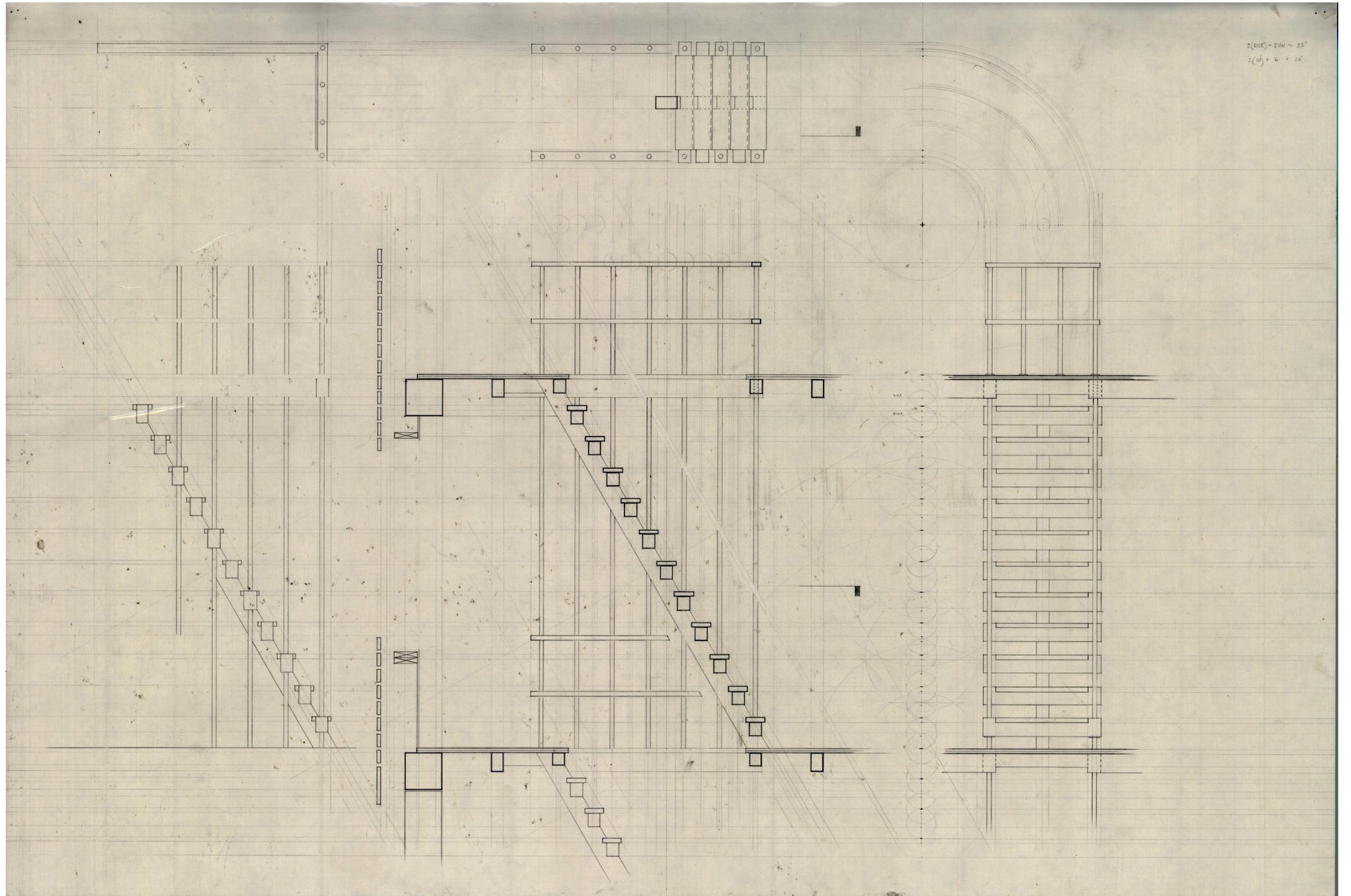
When I refer to details, I am referring to specific conditions of the house where things meet, touch, intersect, slide past each other, etc. These conditions are where an established principle of the design of the house may come into question, and where additional thought must be placed to ensure this does not happen. For example, where the sloped slats on the roof come together with the vertical slats on the side of the house, I extended the corner board all the way to the peak of the roof so that these two sets of slats don't come together awkwardly and compromise the form.

And then when I use the verb detailing, I am referring to the act of drawing the specific conditions described above at zoomed in scales, because they can not be represented sufficiently in a larger plan, section, or elevation. In other words, not all details need to be detailed. But several details of this house needed to be detailed, both to resolve unique conditions, and to provide some standards for how other details of the house could be detailed. The drawings that follow are this type.

At varying scales, I chose to detail the stairs, the front door, some joints of the frame, some interplays of different elements, and a few locations where specific surfaces interact. Some of these details are articulated, such as the stair, in order to clearly express the construction. Some of these details are abstracted by eliminating some visual parts of construction, such as the front entry, in order to preserve the purity of the form of the house. And some combine articulation and abstraction. But whichever was at play, all of the detailing that took place, of course, was aimed at preserving and furthering the truth in the design.

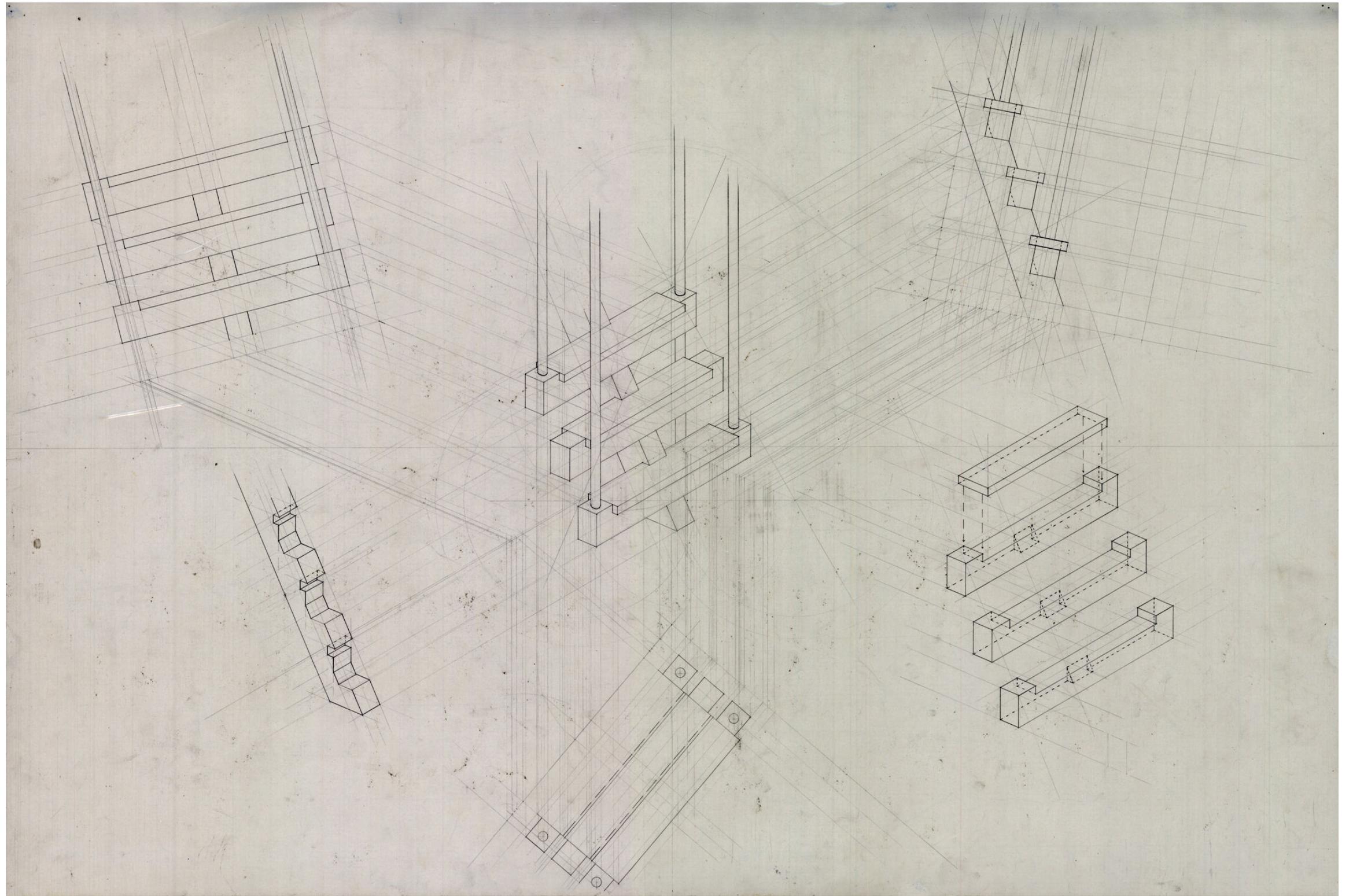
*Pencil on paper (24"x 36").
Detailed plan, section, and
elevations of the stair.*

DRAWING 29 ►



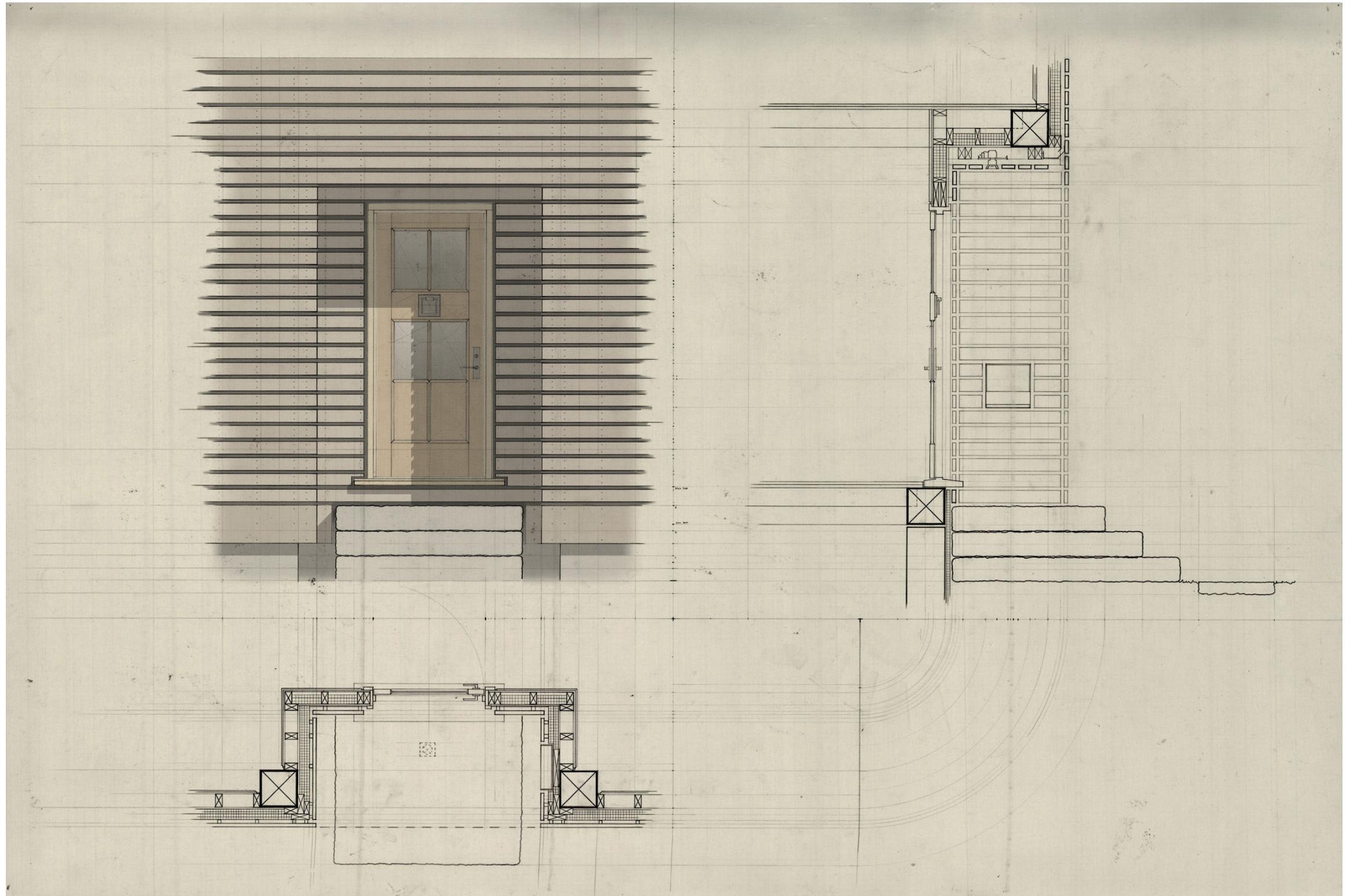
Pencil on paper (24" x 36").
Axonometric, partial detail
construction of a portion of the
stair with explosion.

DRAWING 30 ►



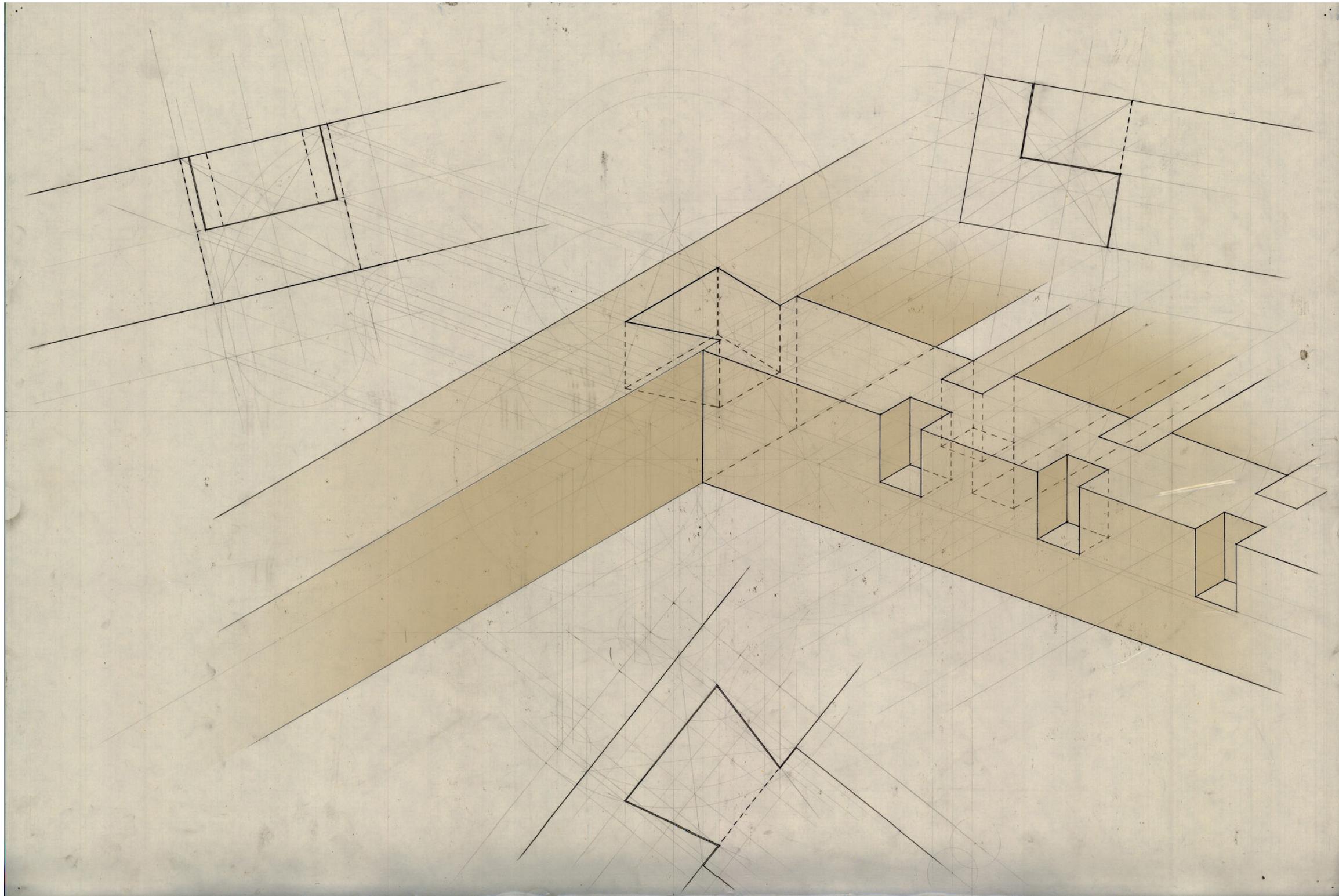
*Pencil on paper (24" x 36").
Photoshopped color tones.*
Detailed three projection of the
front door/entry.

DRAWING 31 ►



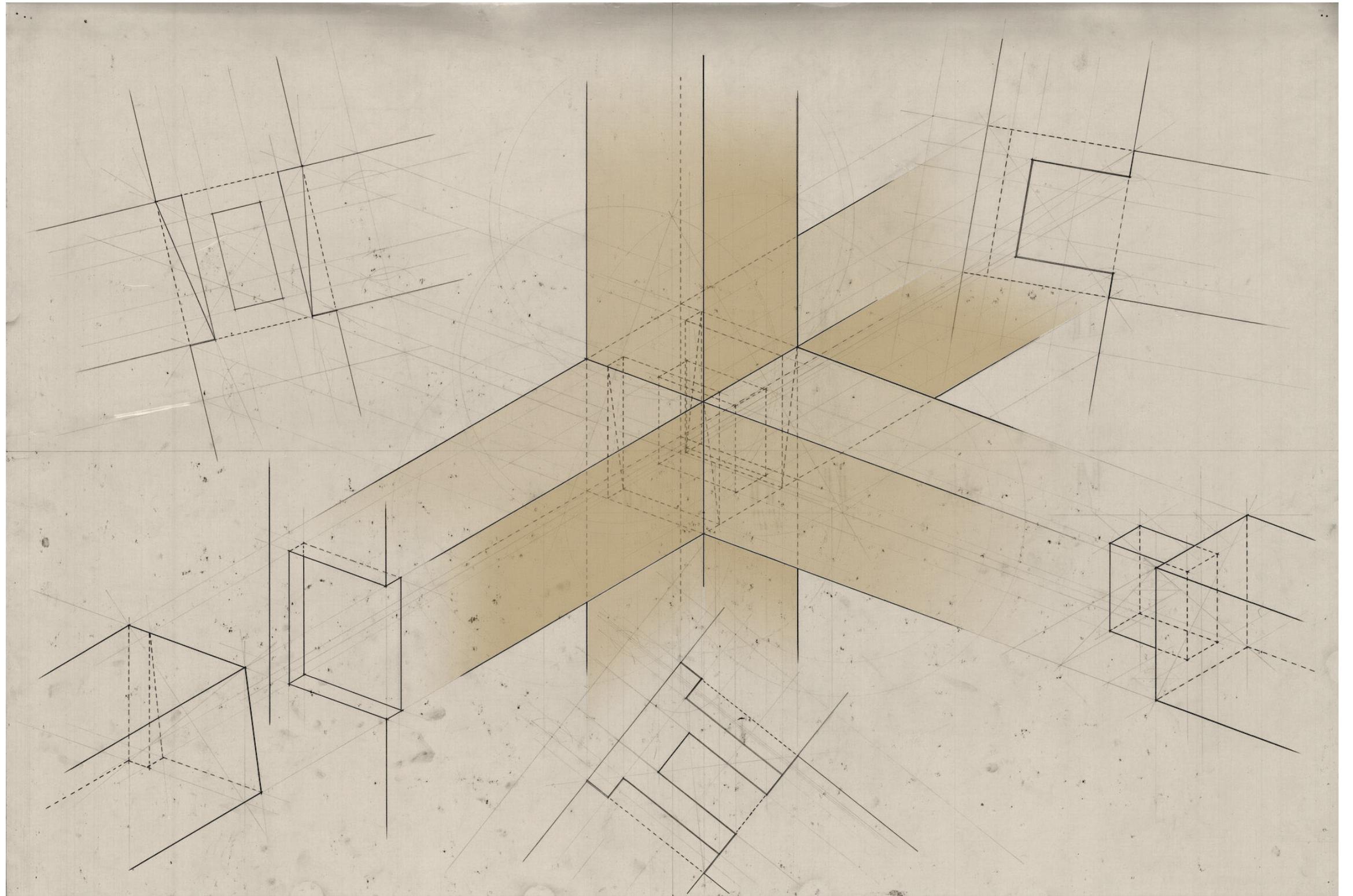
*Pencil on paper (24" x 36").
Photoshopped color tones.*
Detailed axonometric of the
timber frame joint at the
connection of the summer beam
and side girt.

DRAWING 32 ►



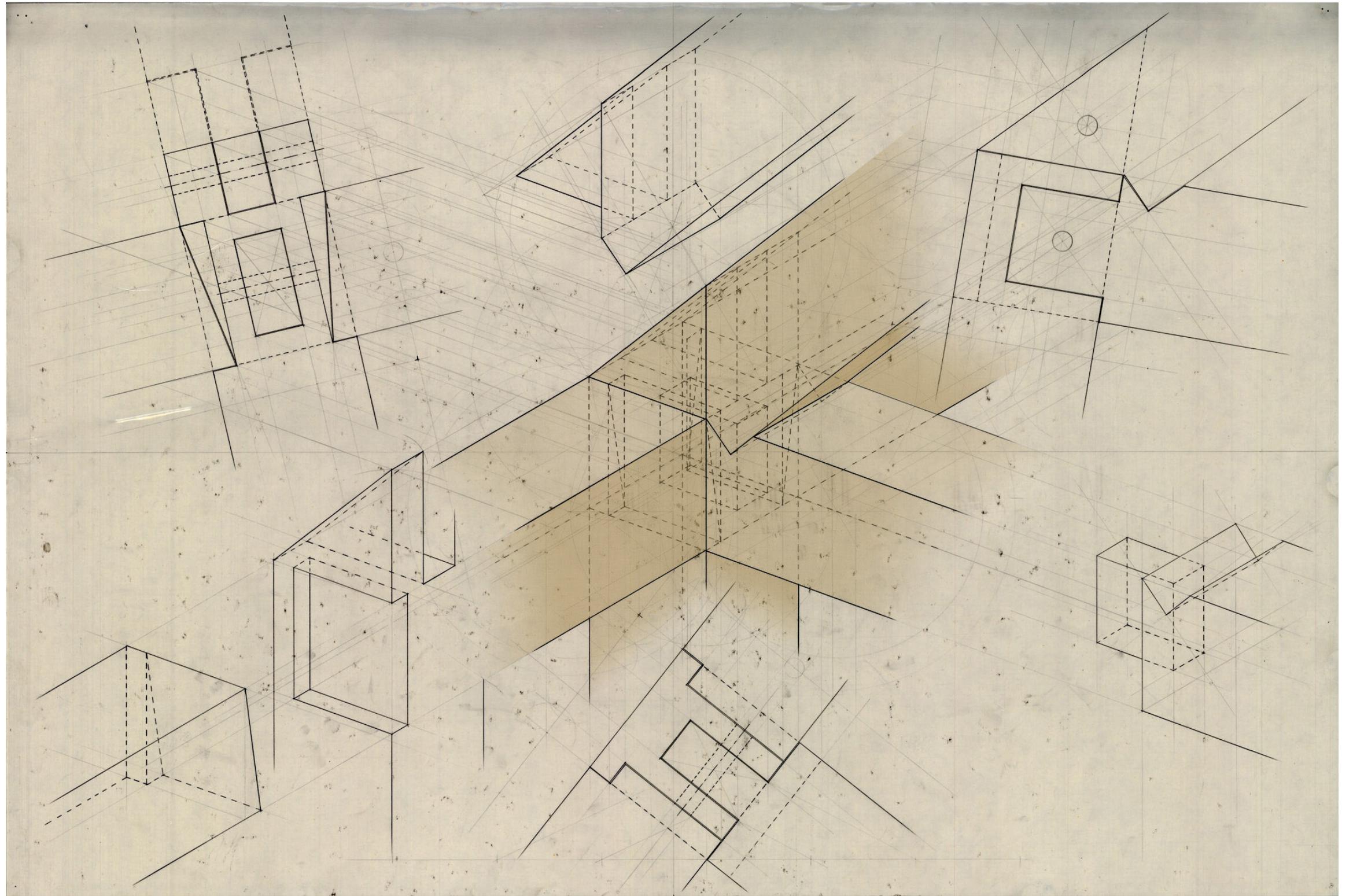
*Pencil on paper (24"x 36").
Photoshopped color tones.
Detailed axonometric of the
timber frame joint at the
connection of a post, the back
girts, and the chimney girt.*

DRAWING 33 ►



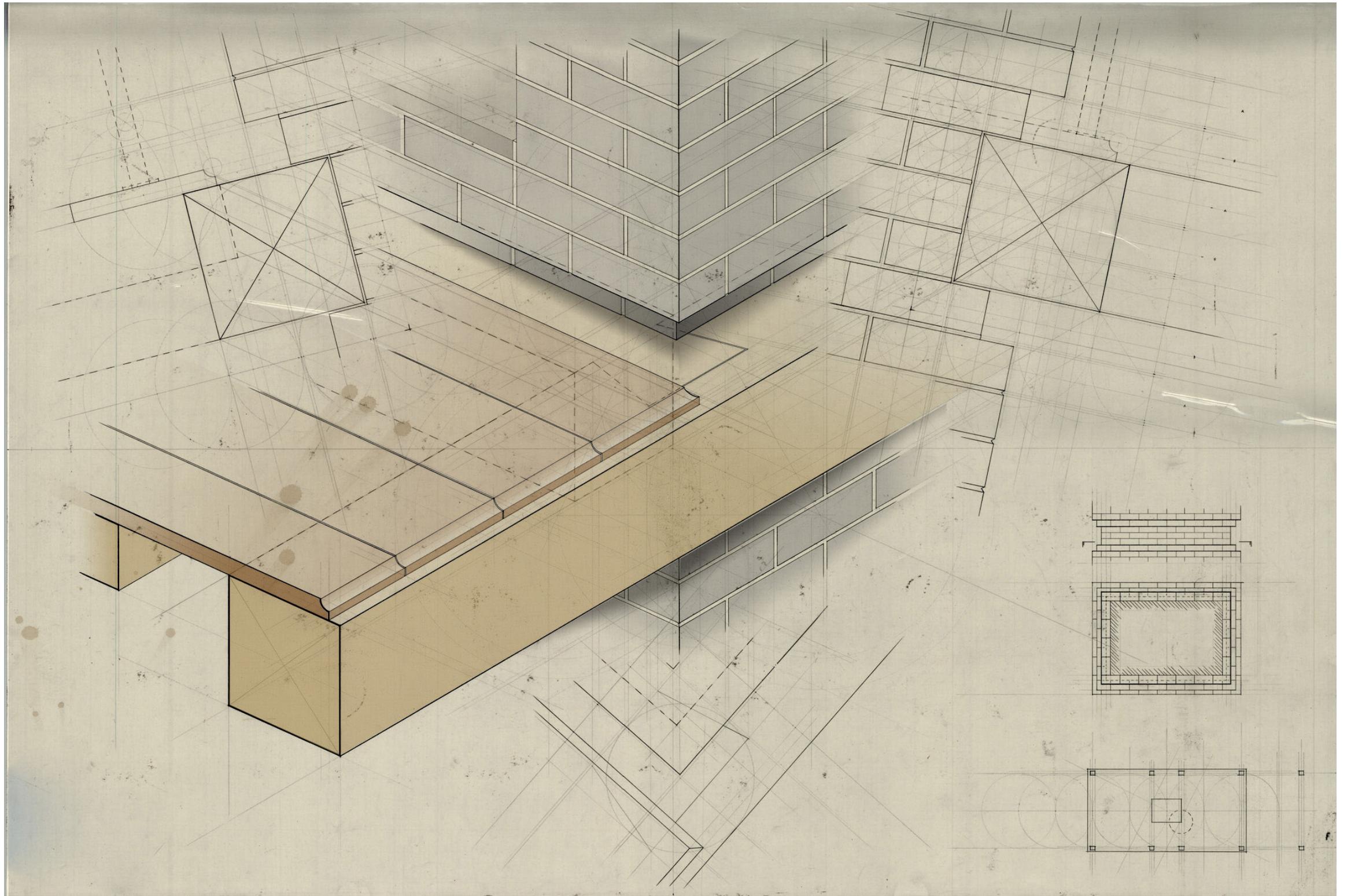
*Pencil on paper (24" x 36").
Photoshopped color tones.*
Detailed axonometric of the
timber frame joint at the
connection of a post, the back
girts, and a principal rafter.

DRAWING 34 ►



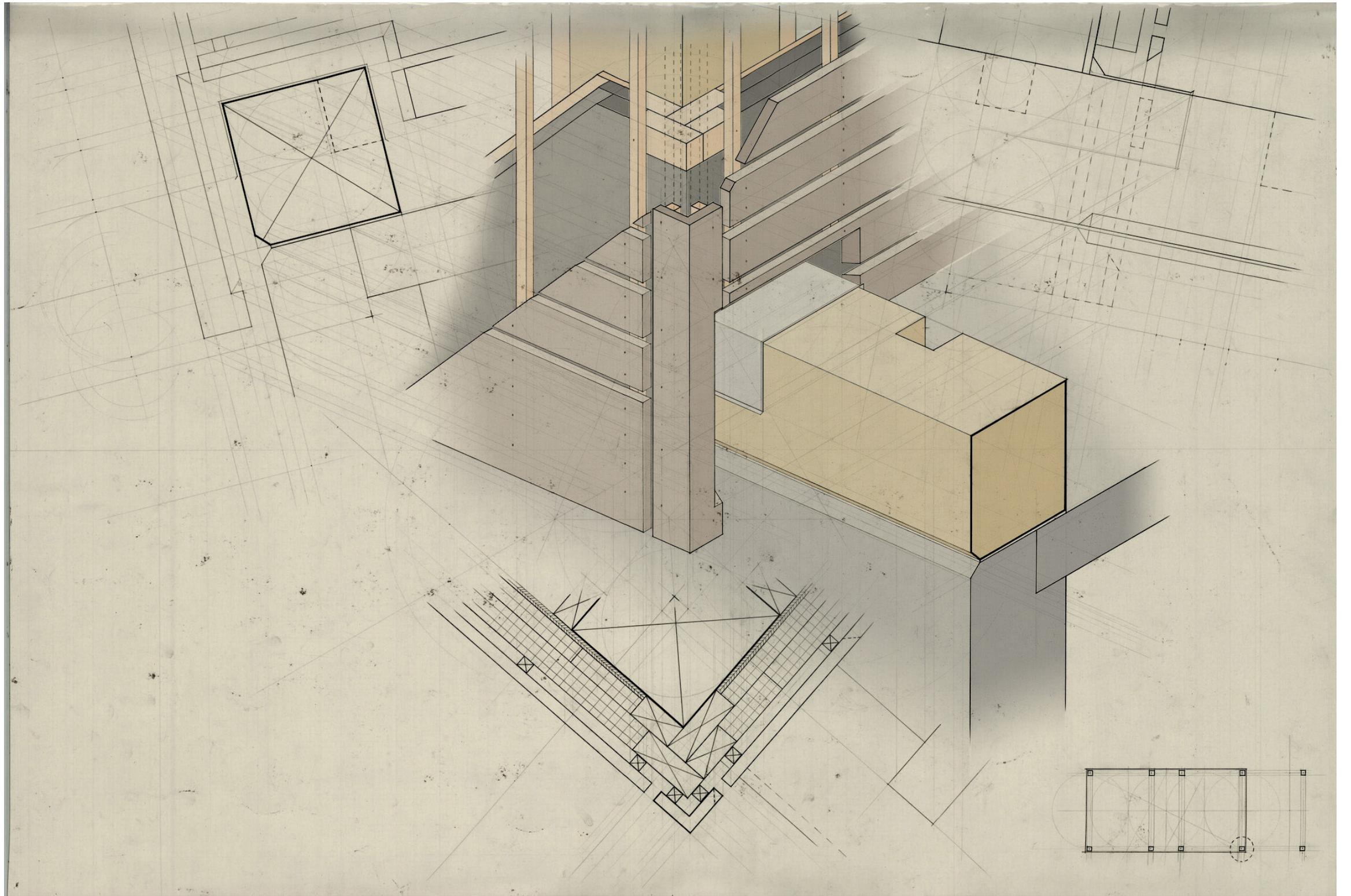
Pencil on paper (24" x 36").
Photoshopped color tones.
Detailed axonometric of the
condition where flooring, beams,
and chimney all come together
at the edge of the second floor
loft space.

DRAWING 35 ►



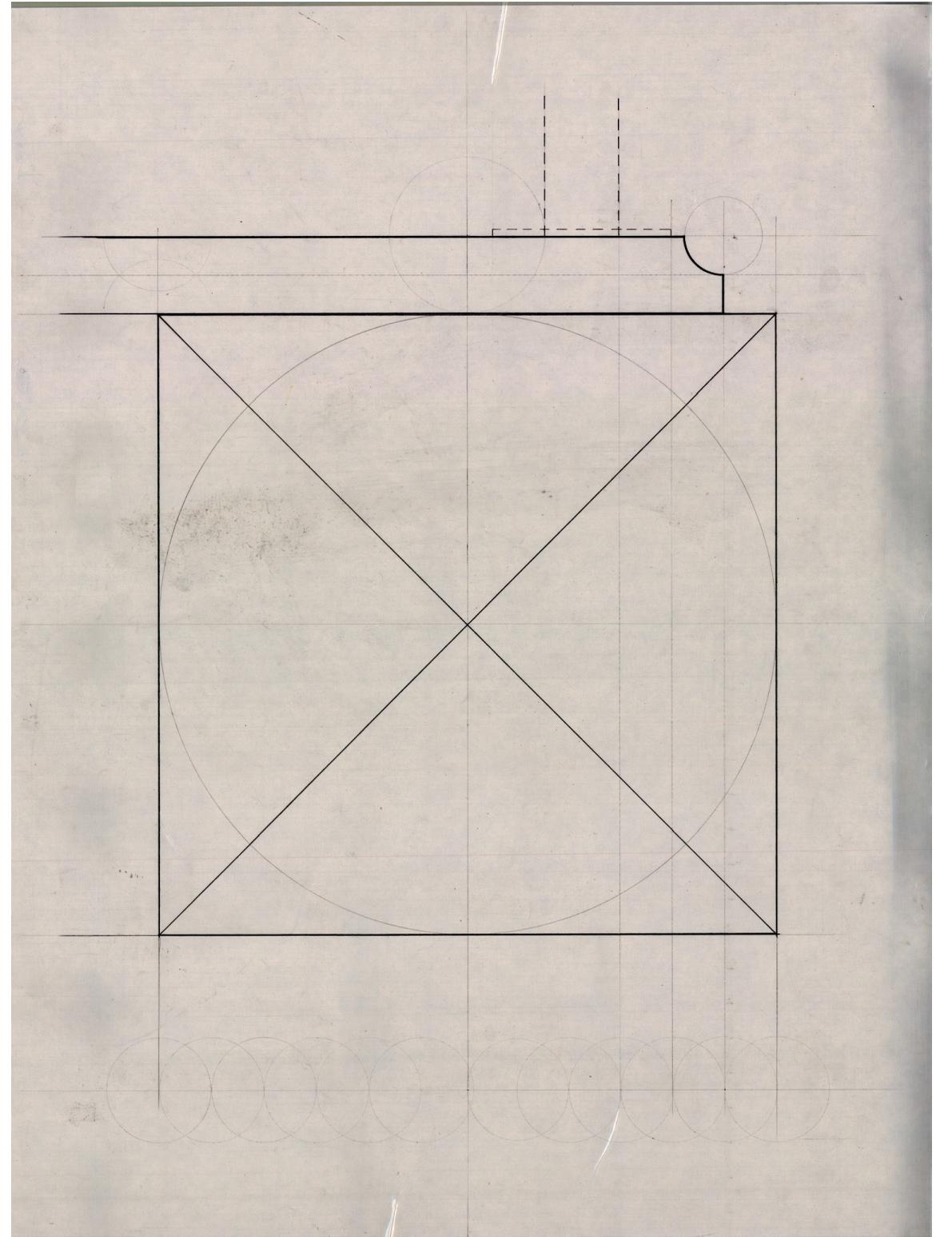
*Pencil on paper (24"x 36").
Photoshopped color tones.*
Detailed axonometric of the condition where the foundation and sill of the unclad timber frame connects to the frame of the house proper and penetrate the slatted cladding. Cutaway shows construction of the enclosure beneath the slats.

DRAWING 36 ►



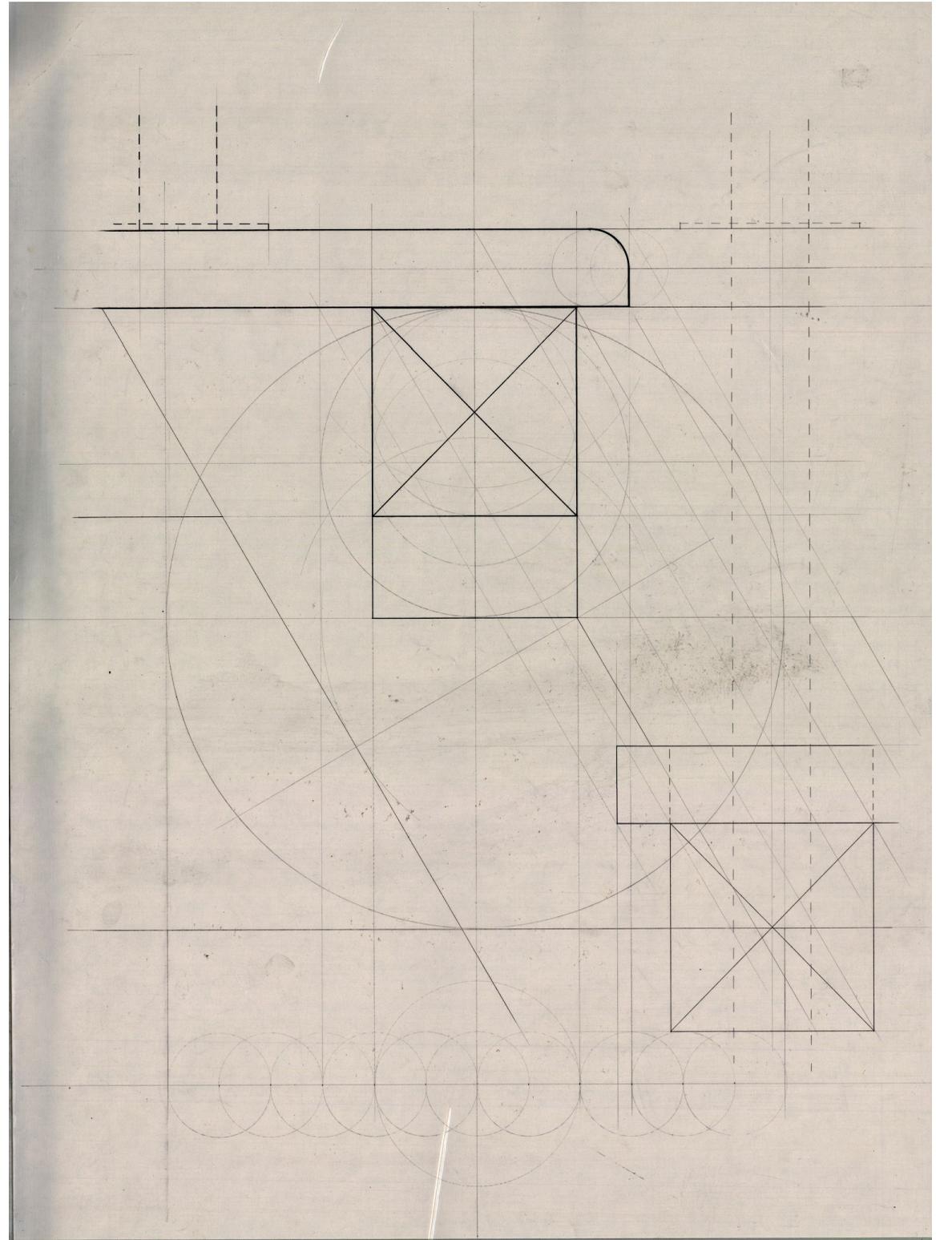
Pencil on paper (24" x 18").
Detail where the red oak plank
flooring edge meets beam.
Beneath the railing separating
the second floor loft from the
kitchen-dining space.

DRAWING 37 ►



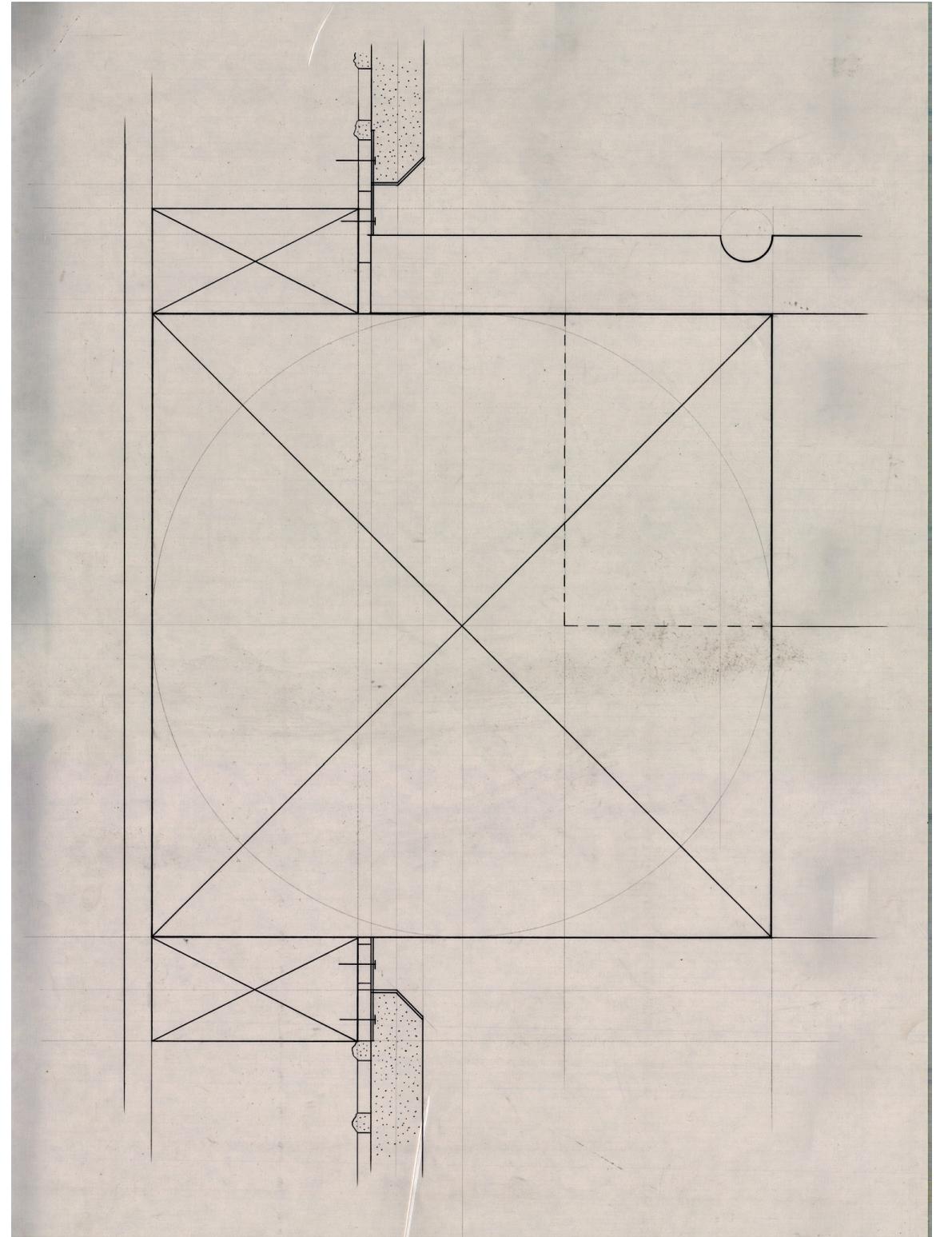
Pencil on paper (24" x 18").
Detail where the red oak plank
flooring edge forms the top tread
of the stair at the second floor.

DRAWING 38 ►



Pencil on paper (24" x 18").
Detail where the red oak plank
flooring edge meets the plastered
inside face of an exterior wall.

DRAWING 39 ►



Place and Placement

The last act of this thesis, truthfully speaking, was the placement of the house on a specific site.

While throughout the entirety of the process leading up to this point the house was always being designed to be true to a place, true to a Main Street in a northern Connecticut town, it was intentionally not placed until the end. I wanted the house to be true to a place, and not just true to a site. I wanted the house to find its own site as a result of being designed true to a place. A site could always be manipulated and designed after the fact in order to accommodate this house, though designing the house with a specific site in mind may have thwarted the greater truth that the architecture aimed to achieve and reflect. Of course, the house was designed to meet the ground and to have a relationship with a street, among other things, but other typical site related things were really not of importance in regard to the goal of this thesis.

And, as hoped, the house did find its site.

On a summer stroll down Main Street in my hometown of Glastonbury, CT, I walked past a site that I had walked by many a time before. In fact, I had even helped to repaint the house on the site a few summers back during my undergraduate years. The site exists right at the end of the portion of Main Street in Glastonbury that is carefully manicured and densely populated with historic homes. On the southern border of the site, there is a steep dropoff to a swampy creek bed that runs to the Connecticut River. This creek also marks a transition point on Main Street, beyond which most of the houses were built in more recent years. The two houses directly north of the site, though built in the mid-1700s are houses of the two-room plan, from the earliest period in Connecticut housing, and the house across the street is a larger house, reflective of the third period. And just north of the house across the street are two old brick houses built in the Federal Style, with double chimneys. There could not be a better spot to place the house of this thesis than this site. It would put the house in a direct conversation with the houses from which its design was initially guided by, the houses that reflect the last genuine search for truth on Main Street. This spatial relationship would not only make the house's acknowledgements and truthfulness to place more apparent, but it would also heighten its evolutions from the past and truthfulness to its time.

Unfortunately, as I mentioned, there already exists a house on this site. It is a beautifully ornate, but extremely decadent, three-story Victorian mansion, only reflective of an individual's wealth at one time. So, with this thesis being indirectly a critique of bad practice, architecturally and in the sense of urban design, the house of *this* thesis was placed here anyway, as it feels like a more appropriate, and restoratively truthful terminus to historic Main Street in Glastonbury. *Drawing 40* shows this last step of placement.

Google aerial views.
Three aerial images of
Glastonbury, CT showing the the
chosen site Main Street and its
relationship to the town center.

IMAGES X, X, X ►



Pencil on paper (24" x 36").
Site plan of the house where
it placed on Main Street in
Glastonbury, CT.

DRAWING 40 ►



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- 1 Ford, Edward F. *Five Houses, Ten Details*. New York: Princeton Architectural Press, 2009.
- 2 Isham, Norman M.; Brown, Albert F. *Early Connecticut Houses. An Historical and Architectural Study*. New York: Dover Publications, Inc., 1965.
- 3 Kelly, J. Frederick. *The Early Domestic Architecture of Connecticut*. New Haven: Yale University Press, 1927.

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