



The Texture of Place

Thesis for Master in Architecture In Architecture

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The Texture of Place

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

Master in Architecture
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Abstract

Can texture embody the idea of a place? Or does a place provide meaning to the textures used to construct it? This thesis seeks to explore the contribution of texture to our understanding of, and relationship with, the built environment. To test this, a mixed use program will be explored in the neighborhood of Mount Vernon Square in Washington, DC.

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Thank you to my friends for their constant and unfailing support.

Love to Mom, Dad, Kim, Shawn,
and Jordan.

I could never have done this without
your belief in me.

The Question

When we think of the word texture images may spring to mind - the rhythmic ribbing of a yarn on a favorite sweater or blanket, the smoothness and visual pattern of the wood in a piece of furniture, the layers of plant forms in a garden, the pattern and surface variations of a brick sidewalk. The interaction and contrast of the tactile and visual textures around us create experiences and spaces that provide joy, excitement, and interest, or, the opposite.

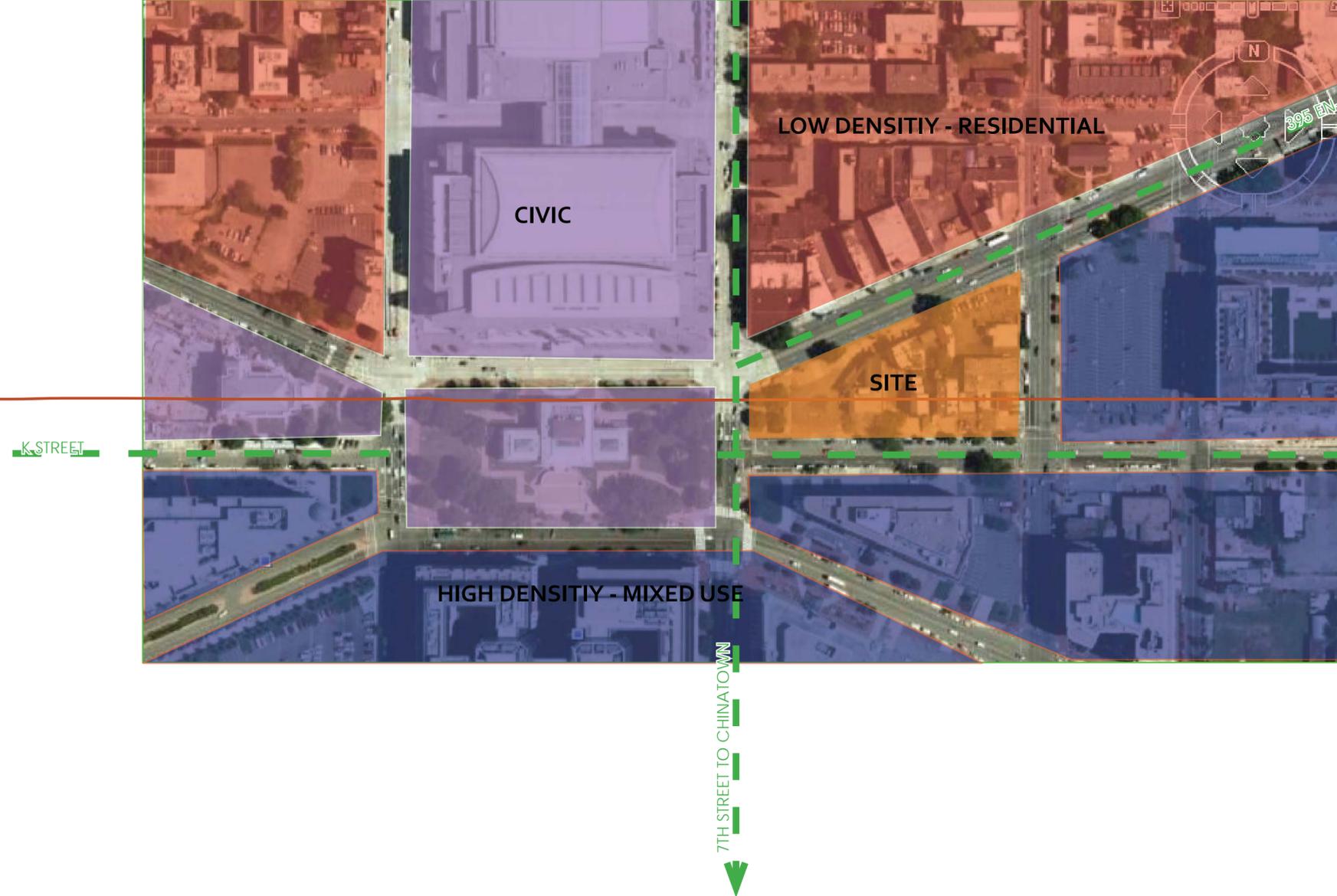
We can think of texture generically as elements that interconnect and mingle with some level of contrast. The contrast, whether slight or sharp, is what registers with our brain to create the sensation of variation, whether tactile or visual. There is also symbolism and meaning connected to texture, although this often may be cultural. For example, when we say the words "homespun" or "modern" the associations often attached to them from the Western consciousness are of warmth and comfort, and sparseness and serenity, respectively.

The question for my thesis became "How can texture embody the idea of a place?"

The First Definition

I started with the etymology of the word texture which is from the Latin *textura*, from *textus*, past participle of *texere*, to weave.¹³ I began my research and my search for a site based on this definition. I wanted a site that was not only in transition but a transitional site. A site that existed between differing urban uses would give me an opportunity to explore the concept of weaving from an urban planning standpoint. This was what I considered the macro scale of the word texture - the relationship of my building to the existing urban environment around it.

My site.



Transportation

The site is surrounded on all sides by high volume traffic and bus routes. The metro runs underground at 7th street - the site is between 2 metro stops.



The Convention Center and Carnegie Mellon Library with it's public park lay to the west of the site. The park is used quite regularly by local residents and workers.

To the north of the site is the bottom of the historic Shaw district - an area of low rise residential that has height restrictions for re-development.



To the east and south of the site are high-density office, hotel, and multi-use buildings either existing or in construction. This is the northern border of the redevelopment that has been ongoing in the Chinatown/ MCI Center area.

Transition

A few residences still exist on site, remnants of the history of the neighborhood.



The businesses on site showed a mix of trades aimed at both the local and transient market.

Site History

In order to understand the complexity of the site and how I might use that in exploration of my question I decided to study the origins of the site. I wanted to understand the physical legacy of previous structures. Also, the perception of a neighborhood becomes associated with the types of buildings and how they are used. This perception of the area is often carried into the future and influences the types of buildings that are considered acceptable or valuable in that area. I wanted my project to mesh with the character and physical presence of the area and to provide a woven bridge between the zones of density currently in the development plan.

Mixed - Use

ATLAS KEY
BRICK
WOODEN

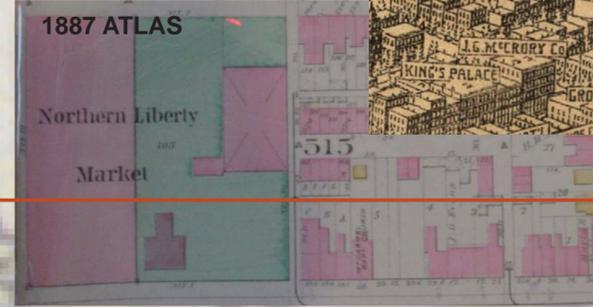
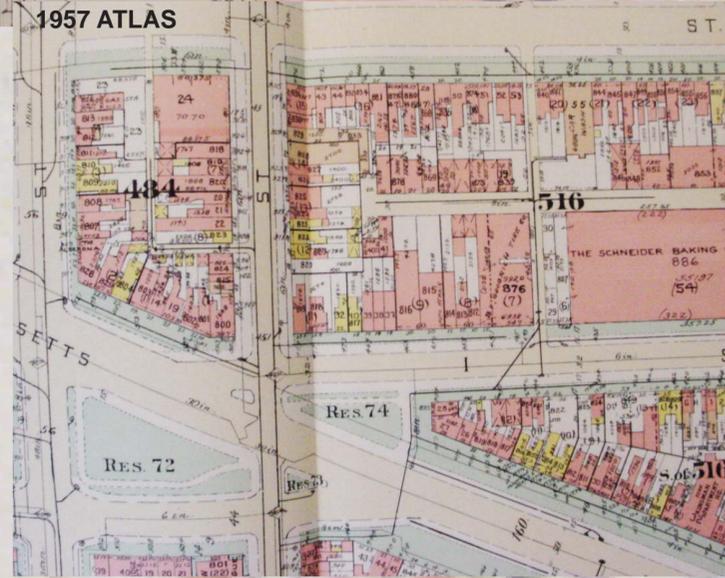
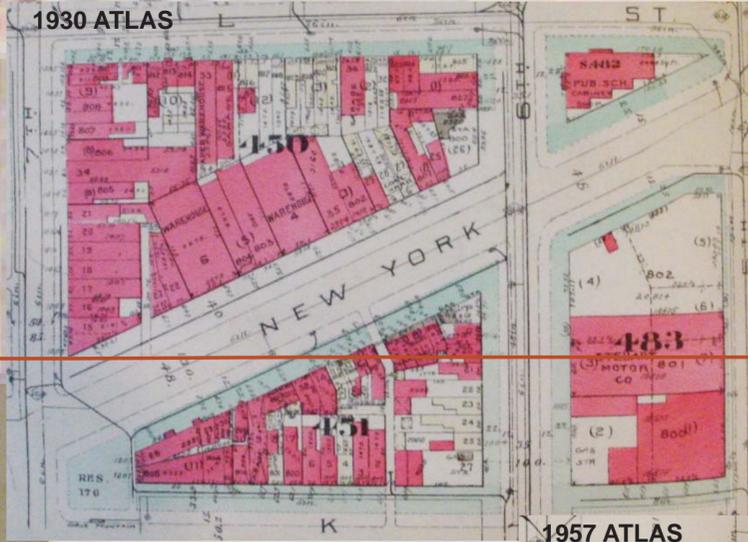
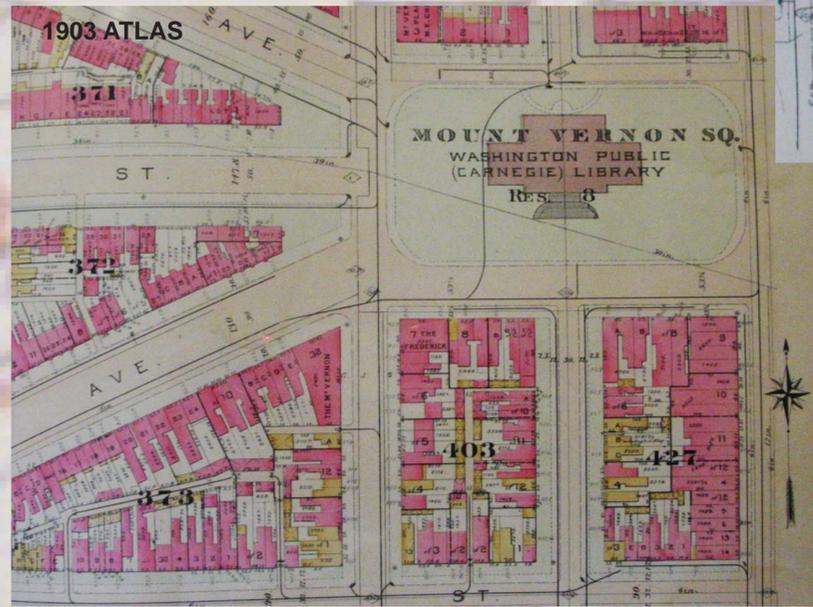


Figure 1: 1921 PANORAMIC



Figure 2
"After this neighborhood's original Northern Liberty Market on Mount Vernon Square was razed in 1872, a new Northern Liberty Market was built along Fifth Street between K and L. When the market's owners saw that farm products weren't drawing enough customers, they added a massive second-floor entertainment space. This was Convention Hall (1893), the city's first convention center, seating 6,000." (Cultural Tourism, DC; p.41)



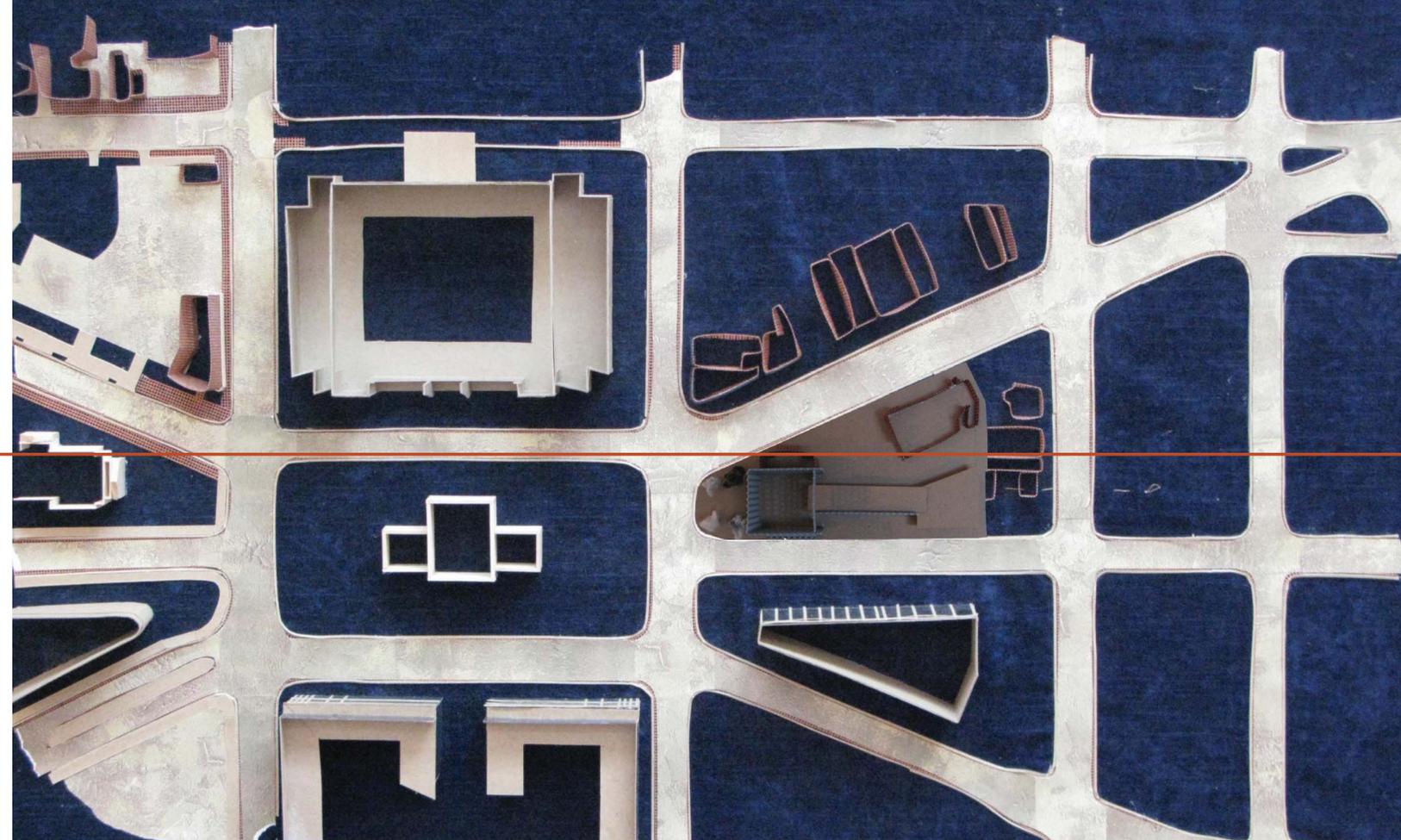
Figure 3 and 4
"The completion of the Northern Liberty Market on Mount Vernon Square in 1846 led merchants and tradesmen to build houses nearby. Doctors and shopkeepers occupied three-story buildings, doing business on the street level and living above." (Cultural Tourism, DC; p.5)



Marketplace

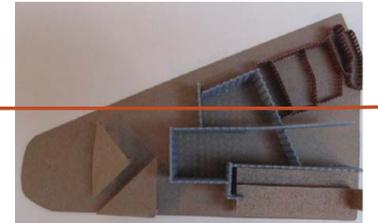
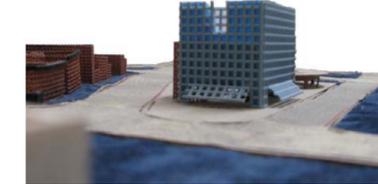
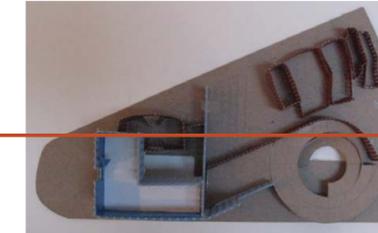
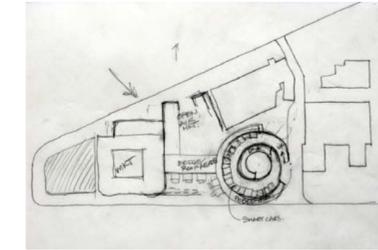
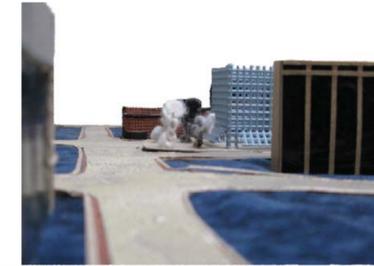
Texture Studies

I wanted to map the textures of the site so I chose model materials that had similar visual and tactile characteristics to the full scale material. I experimented with the quantity and arrangement of each texture. In both small and large models, this helped me envision how I might use textures in the context of the overall urban setting. This, in turn, began to influence the placement of the programmatic elements. I carried these model textures through to the final design.



SITE TEXTURE MAP

relationships



plastic xstitch



CURTAIN WALL

blue velvet



EARTH

basswood



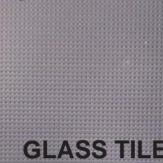
STONE

sandpaper



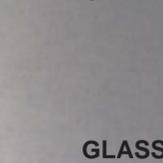
CONCRETE

plastic mesh



GLASS TILE

clear plastic



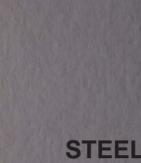
GLASS

linen xstitch



BRICK

cardboard



STEEL

textured paper



ASPHALT

corrugated plastic



STRUCTURAL GLASS

"In fact there is an art of relationship just as there is an art of architecture. Its purpose is to take all the elements that go to create the environment: buildings, trees, nature, water, traffic, advertisements and so on, and to weave them together in such a way that drama is released." (Cullen; p.7)

Material Studies



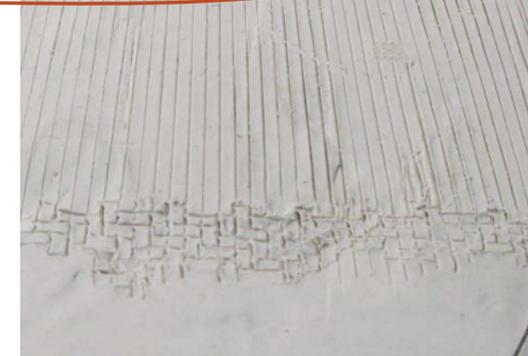
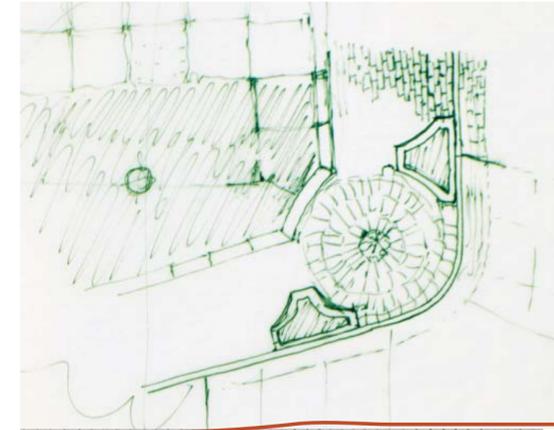
precious materials



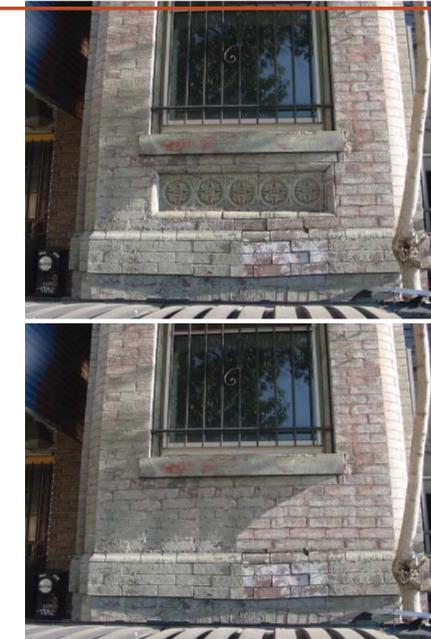
The bricks seem to be buried treasure waiting to be rescued from the encroaching concrete.



Studies of the perception of space via the addition/removal of texture in an image.



Studies of changing from a brick texture to a flat or scored concrete surface to delineate a path. It also is a study of the transition of a historically handmade material to a material associated with commerce and industrial methods. Use of texture on the horizontal plane was a way to connect the surrounding textures to and thru the site.



In Dan Willis' essay *The Valor of Iron* he makes the argument that there is value implied in materials made with courage, risk, difficulty, respect, or sacrifice versus materials made with ease, certainty, or efficiency. There is a richness and value assigned to materials shaped by hand, mind, and craftsmanship.

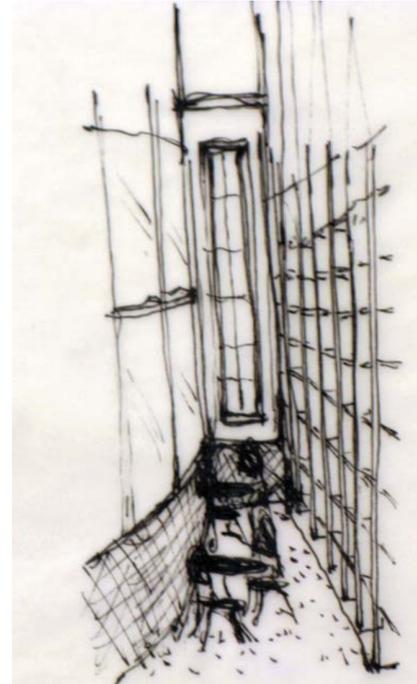
"Bricks are key to the history of the city of Washington, DC." "Like the Incas and many other civilizations before them, Washingtonians built the most important city of their nation, the capital, with their own sweat and labor, using the earth beneath them and the rivers around them. As a result of their labor, brick unifies the architecture of Washington;..." (Garofalo, p.1)

symbolism

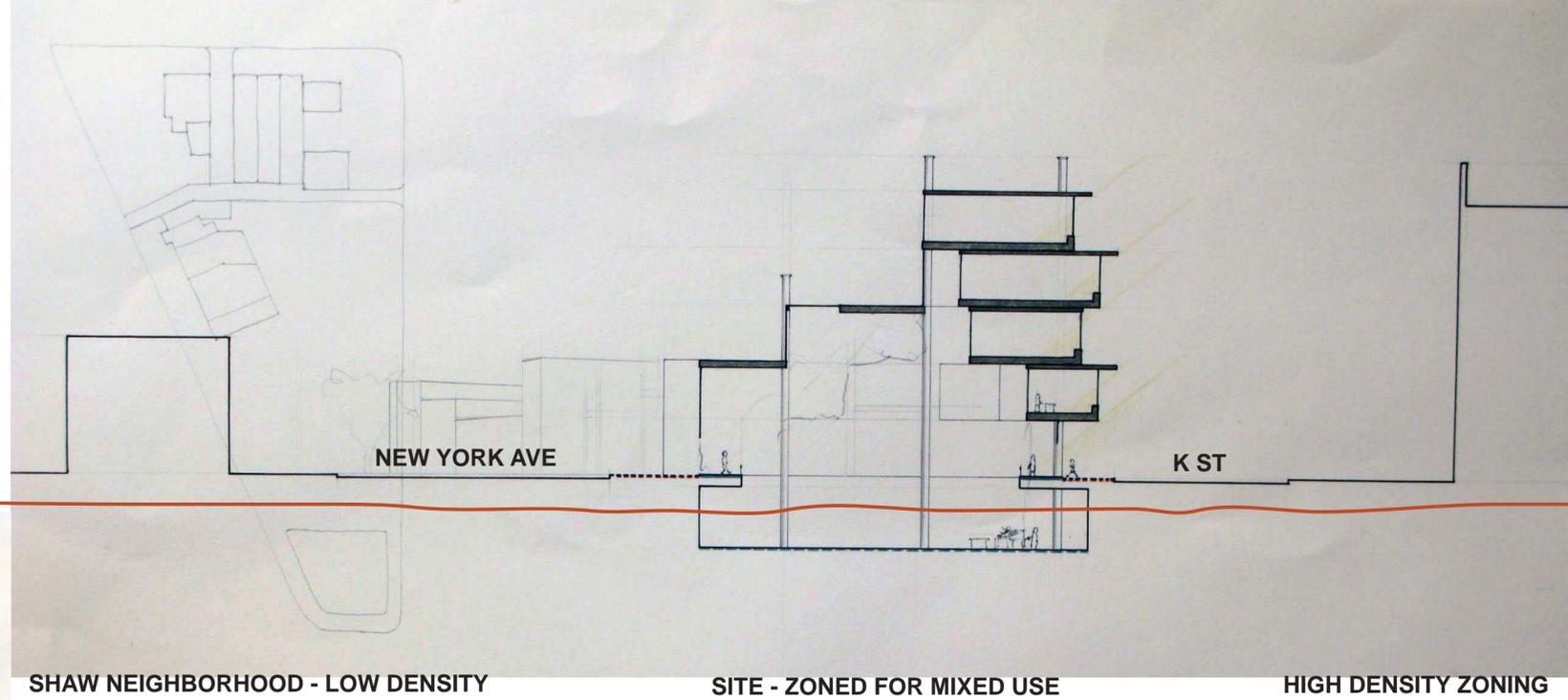


"... there is something impressive to the imagination in thus making the floor to appear like the sea." William Lethaby give many historical, biblical, and mythological references to provide a convincing argument that architecture "interpenetrates building, not for satisfaction of the simple needs of the body, but the complex ones of the intellect." (Lethaby; p. 219) I began to explore the use of glass as a ground material to impart a sense of value to the areas it covered. The change in material texture could define areas of significance for congregation as opposed to

Scale Studies



Sketch of wall grids to define transition from exterior to interior spaces.



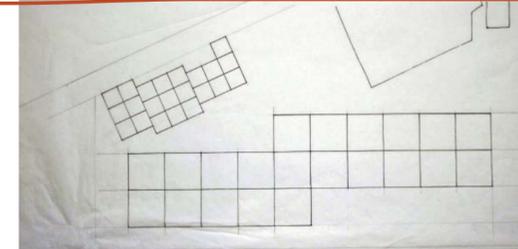
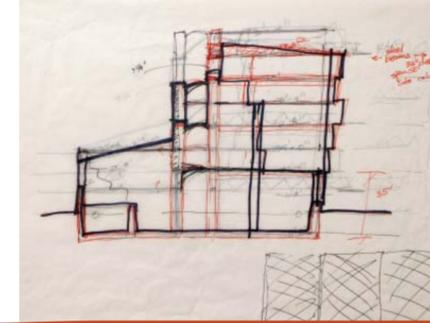
SHAW NEIGHBORHOOD - LOW DENSITY

SITE - ZONED FOR MIXED USE

HIGH DENSITY ZONING

The use of texture within the context of urban planning, where materials and scale determine the urban layout is discussed by Camillo Sitte in City Planning according to Artistic Principles. In his book he tried to analyze successful and unsuccessful public spaces from older European towns to discover underlying artistic guidelines that could then be applied to contemporary development. Sitte was not concerned with promoting or dismissing a particular style of architecture; the guidelines were intended to transcend style. He was interested in how public spaces were arranged and interwoven with buildings. In Chapter XII, "Example of an Urban Arrangement According to Artistic Principles", he discusses the existing plaza around the Votive Church in Vienna and proposes improvements. In his opinion the Votive Church was surrounded by a plaza so enormous as to detract from the architecture of the church. The Gothic building could be viewed from a long distance and the scale of it in comparison to the buildings in the background made it seem diminutive and out of scale – not the response that one would prefer for a church. These buildings also had architectural elements that competed with the church and created a discordant ensemble – "it is as if one were listening to a fugue by Bach, a grand finale from a Mozart opera, and a hit tune by Offenbach all at the same time. Unbearable, truly unbearable!"(Sitte; p. 283). He draws a plan that suggests the addition of buildings and specifies their layout in order to improve the views of the church and use of the plaza. In essence he uses the contrast of mass and void in both plan and elevation to restructure all approaches to the church to obtain the best scale for views of the building and to obscure competing views. His suggestion of materials and styles to apply to the new portion show how he thought it was necessary to use surface texture to weave some of the Gothic elements into the new plaza so that there wasn't an abrupt transition from the plaza arcade to the church façade. However, he also realizes that it would be detrimental to make everything Gothic. This use of contrasting styles, i.e. textures, enables hierarchies and relationships to become visually evident and achieves his intent of providing a harmonious and well-balanced procession to various viewing angles of the church. These same principles could very easily be applied to present day urban planning.

Early study in scale transition from low density to high density.



Using a module to study both human scale and the transition in the scale of the overall site.

scale

Visible structural elements provide a sense of scale. The differing scales of the materials provide texture and movement for the eye.



This building would face the Shaw neighborhood so the brick floor serves as a reference to the historical use of brick for buildings and floors at this scale. Brick would not be used as cladding so that the scale of the structure would relate to larger structures on site.

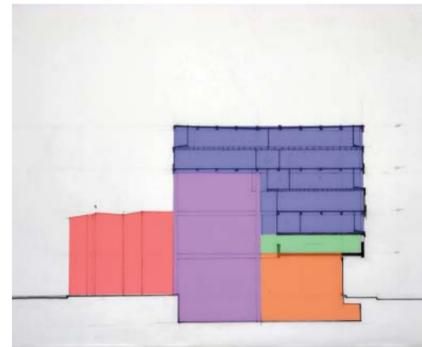


Another model of modularization of buildings on the south side of the site to allow the human scale to be recognized from the exterior. Repetition by stacking is a study of providing texture at a larger scale.

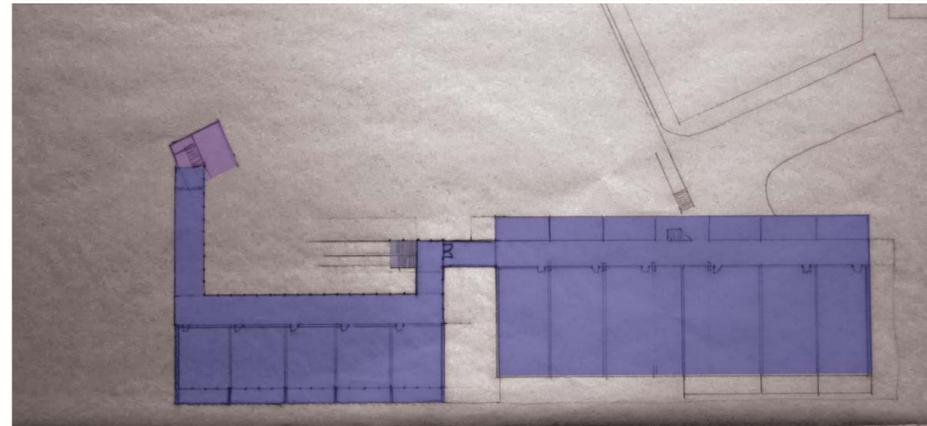
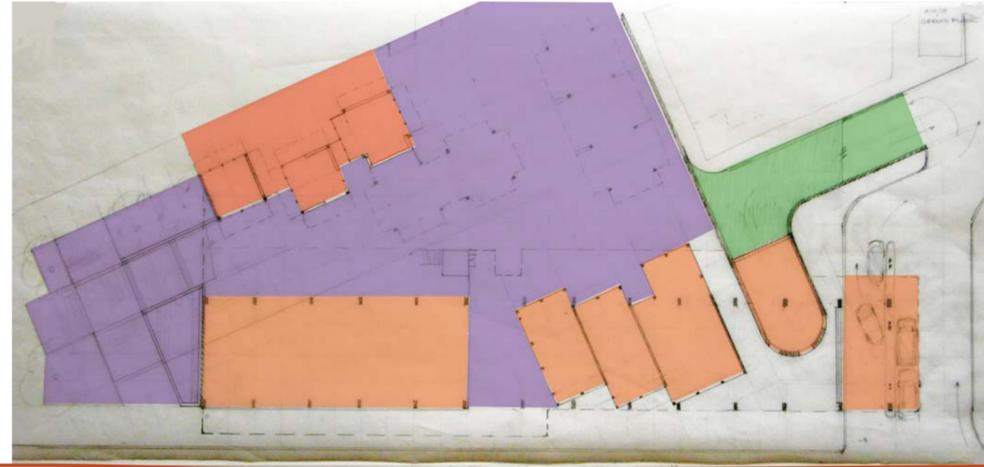
Program Studies

Further exploration of weaving the civic, residential, transportation, and commercial programmatic elements through the site on both horizontal and vertical planes.

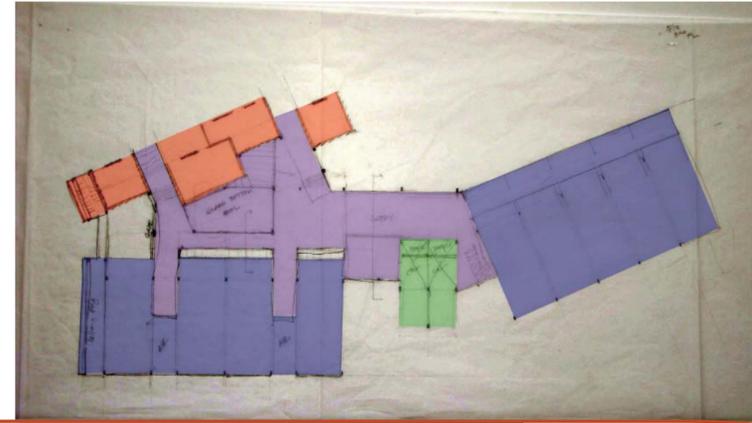
The car dispenser in the models germinated the idea of using the forms found in a marketplace and solidified the final design development phase of my thesis.



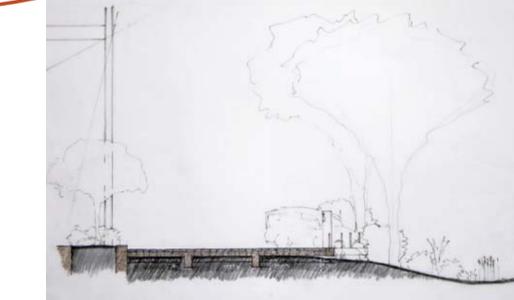
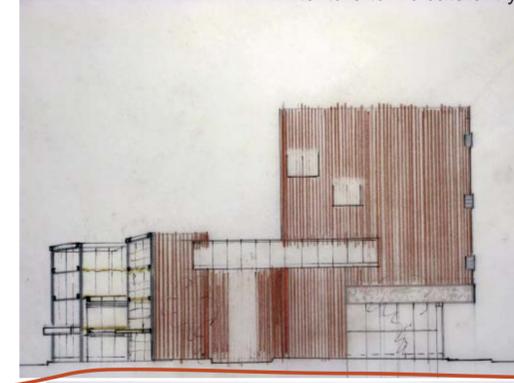
horizontal weft



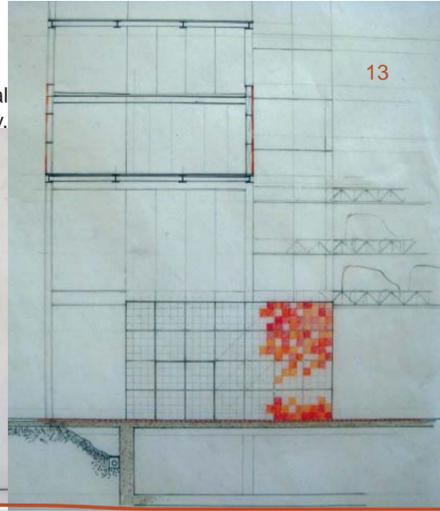
vertical warp



Exploration of the use of a vertical texture to indicate entry.



Use of texture to delineate a programmatic area.



The Second Definition

I used another definition of texture in the final design development of my thesis: "2 a : essential part : SUBSTANCE b : identifying quality : CHARACTER".¹³

Since a large part of my program was the marketplace I decided to use this as the defining quality or character of my project. In researching historical markets such as the Forum of Trajan, the Cotton Market, Quincy Market, Covent Garden, etc., a marketplace is where one could exchange goods, services, ideas, etc. This seemed to fit the mixed use program of my site, the historic uses of the neighborhood and the current surrounding context.

Figure 6



repetitive framework



Figure 7



abundance

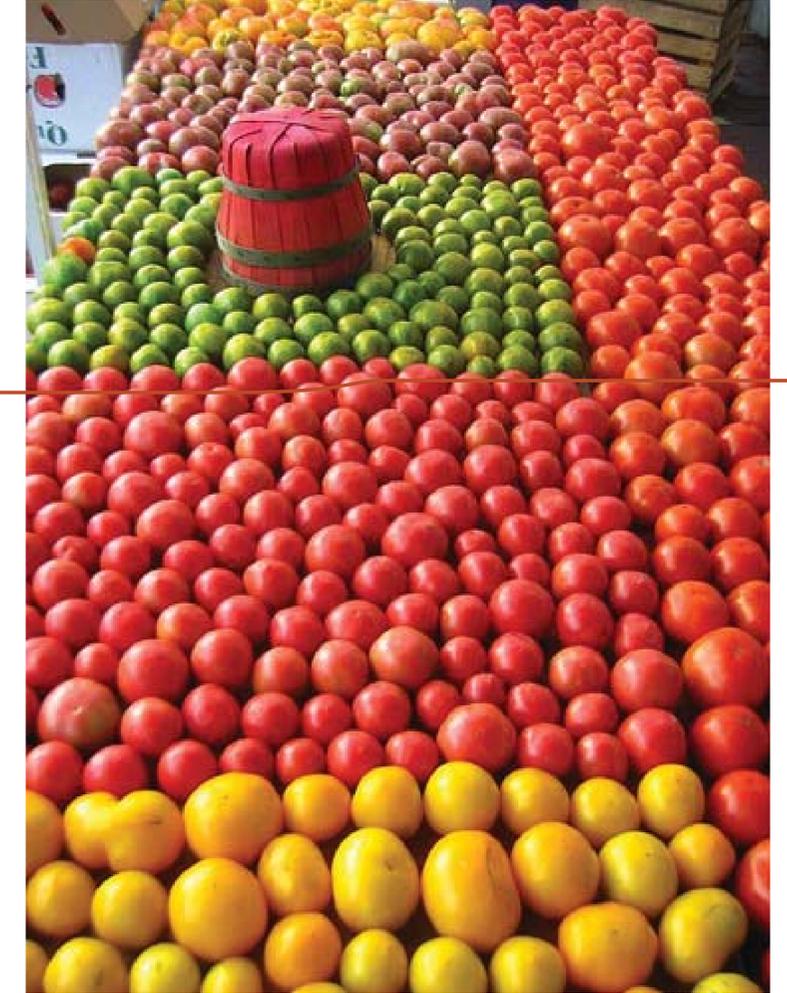
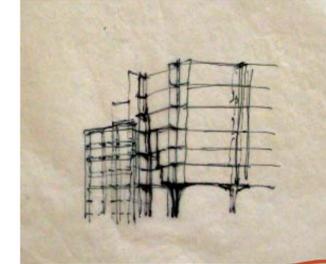
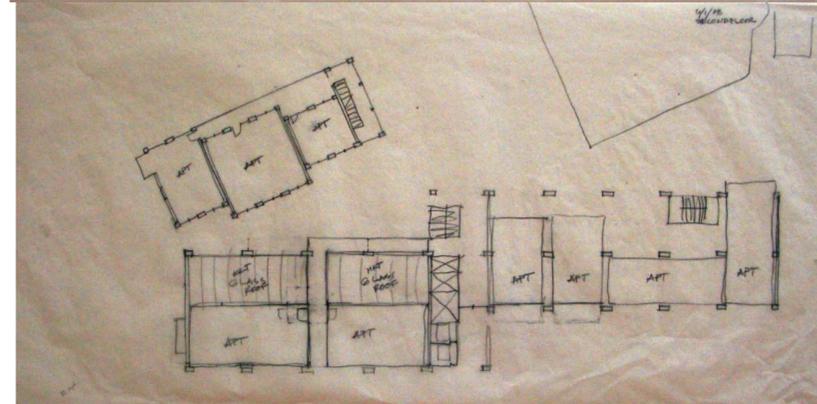
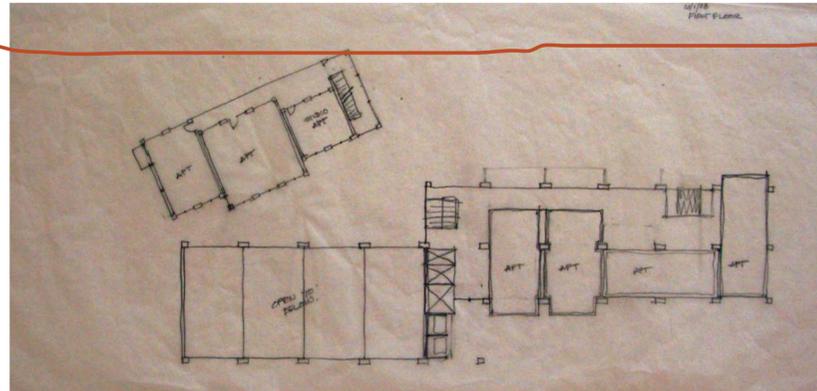
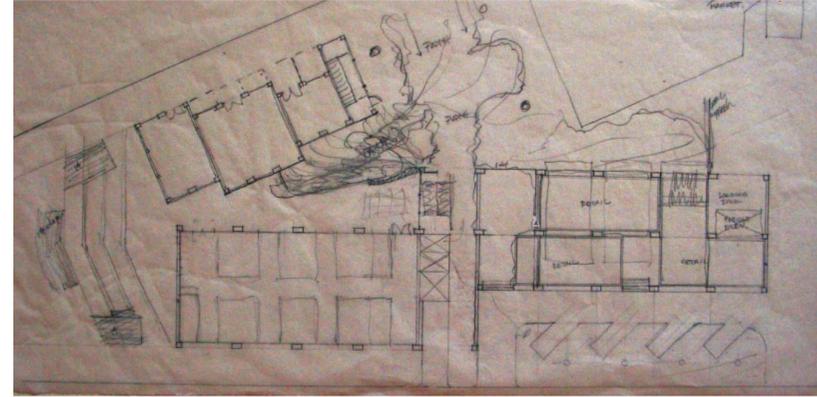


Figure 8

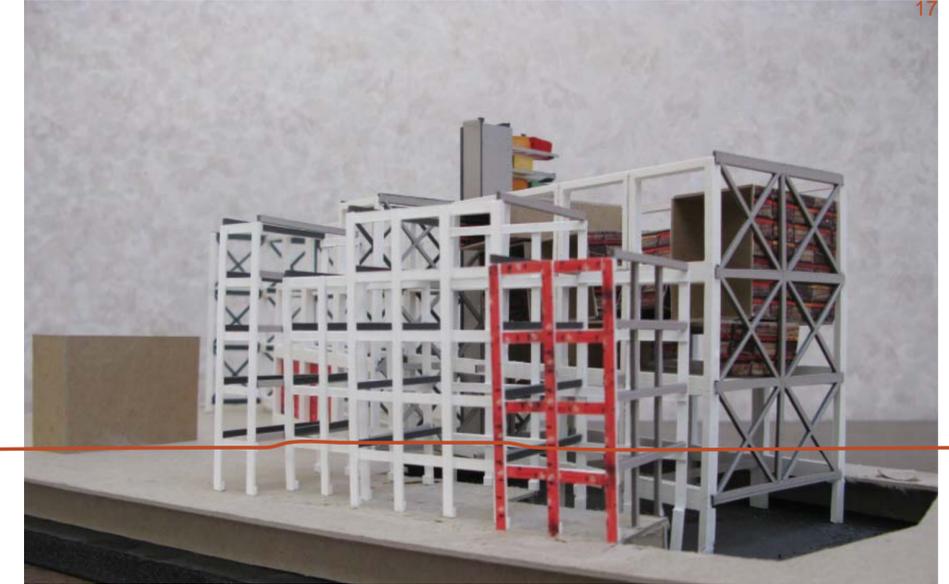
Variety and the need to dwell

Another influence on my project that meshed well with the introduction of variety was an essay by Dan Willis, "Vernacular Architecture and the Economics of Dwelling". This essay inspired me to want to create spaces in my project that would enable society's need to dwell - the need to imbue a place with personal meaning.

"In the late 1980's film *Planes, Trains, and Automobiles*, the traveling salesman Del Griffith always places a picture of his wife on the nightstand of whatever sleazy motel he temporarily occupies. It is only by this act, which he might have learned from the Gypsies, that Griffith is able to dwell." (Willis; p.131)



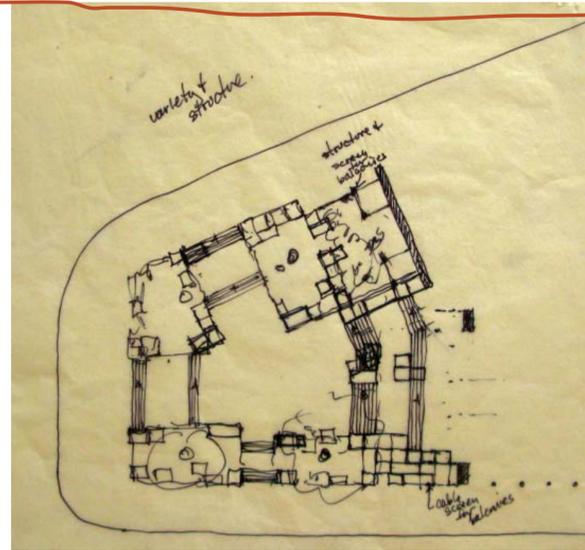
choice



I hoped to provide a variety of spaces and textures within those spaces to allow an individual to create a personal sense of attachment -much like one would have for a favorite view from a particular bench in a park. The arrangement of dwelling units, commercial spaces and public spaces could be like the gentle imperfection of the way boxes sit on a market shelf. The selection of the space and the integration of it into memories would allow each person to dream that their place was individual to them.

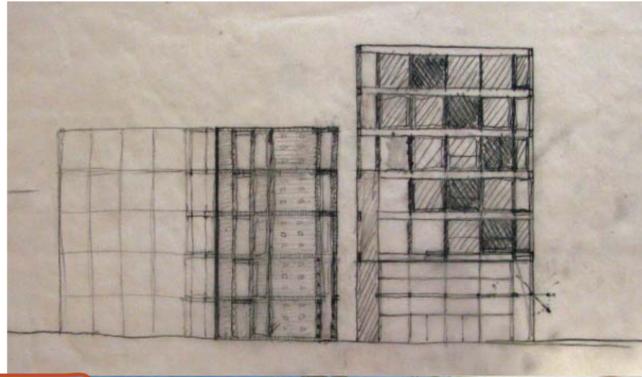
Sketches & Models

I was also influenced by pictures of the physical characteristics of current market places. In "The Drive-In, the Supermarket, and the Transformation of Commercial Space in LA, 1914-1941" the author discusses the arrangement of spaces of the contemporary market place. The use of a forecourt preceding a formal entry past a public facade was a common element. Another was again the offering of a variety of services within one complex.



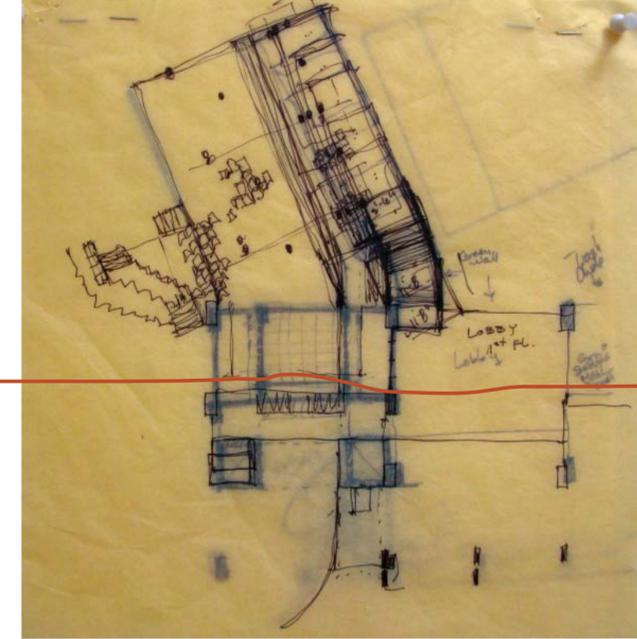
The forecourt could be connected to the existing park and structure of the historic Carnegie Mellon Library across the street by the use of stone hardscaping and landscape planting. This extends the public park at the library onto the site.

formal

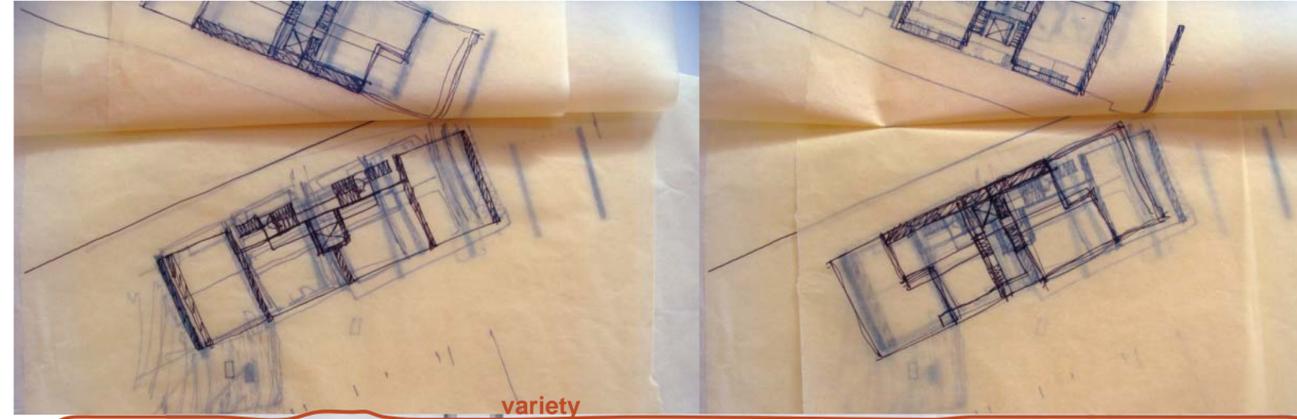


Study of juxtaposition of brick and steel facades to create a formal entry. Texture and scale on the vertical plane relate to the use of those textures on either side of the site.

informal

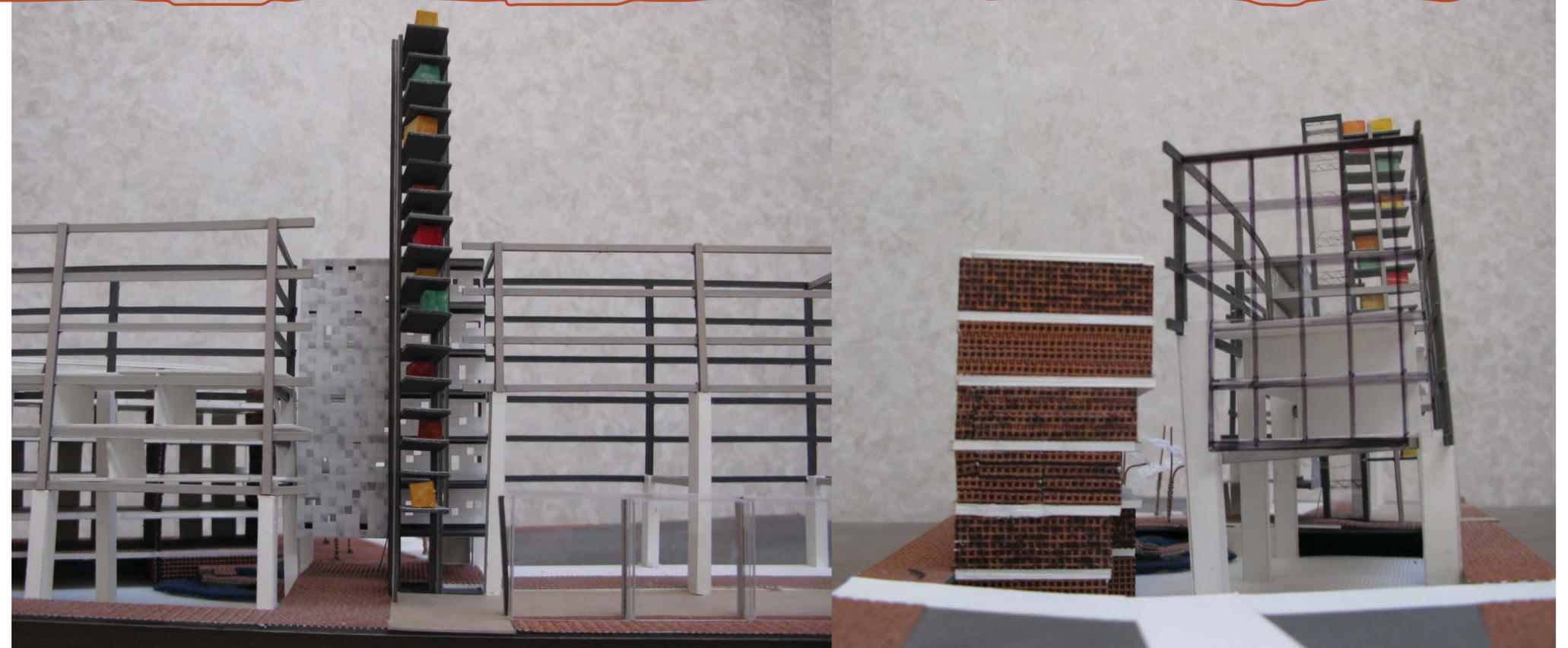
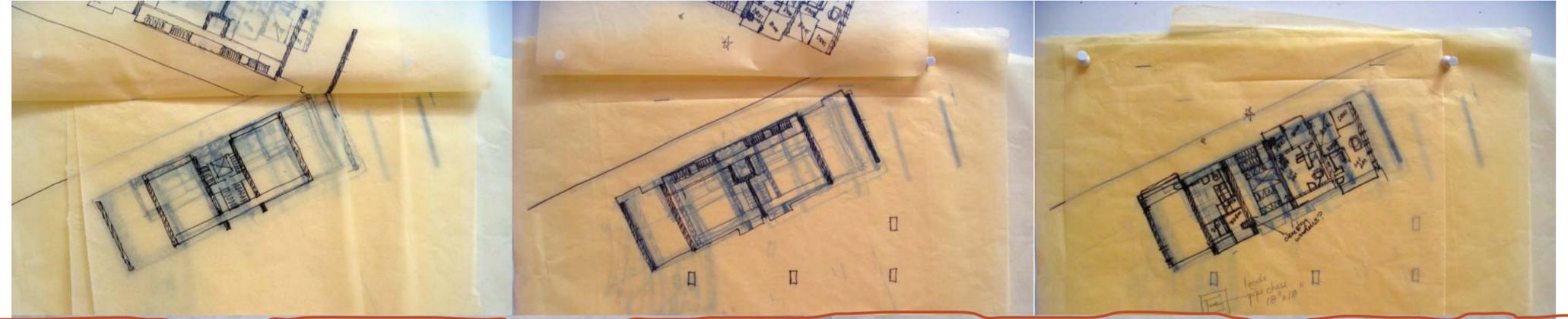
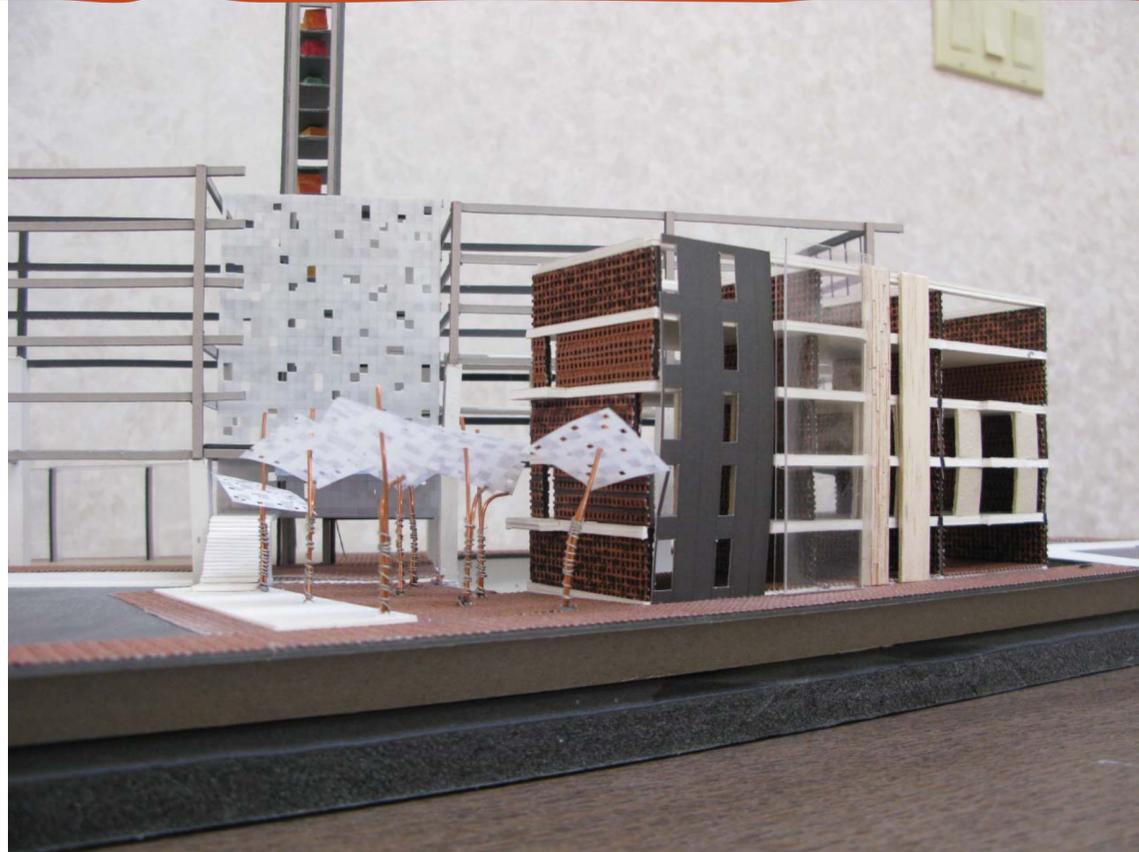


The midblock entry crosses thru the site allowing a direct visual connection by following the brick pathway. It allows for a more informally defined open space for neighborhood congregation which carries back to the historical use of a marketplace.



Sketches & Models

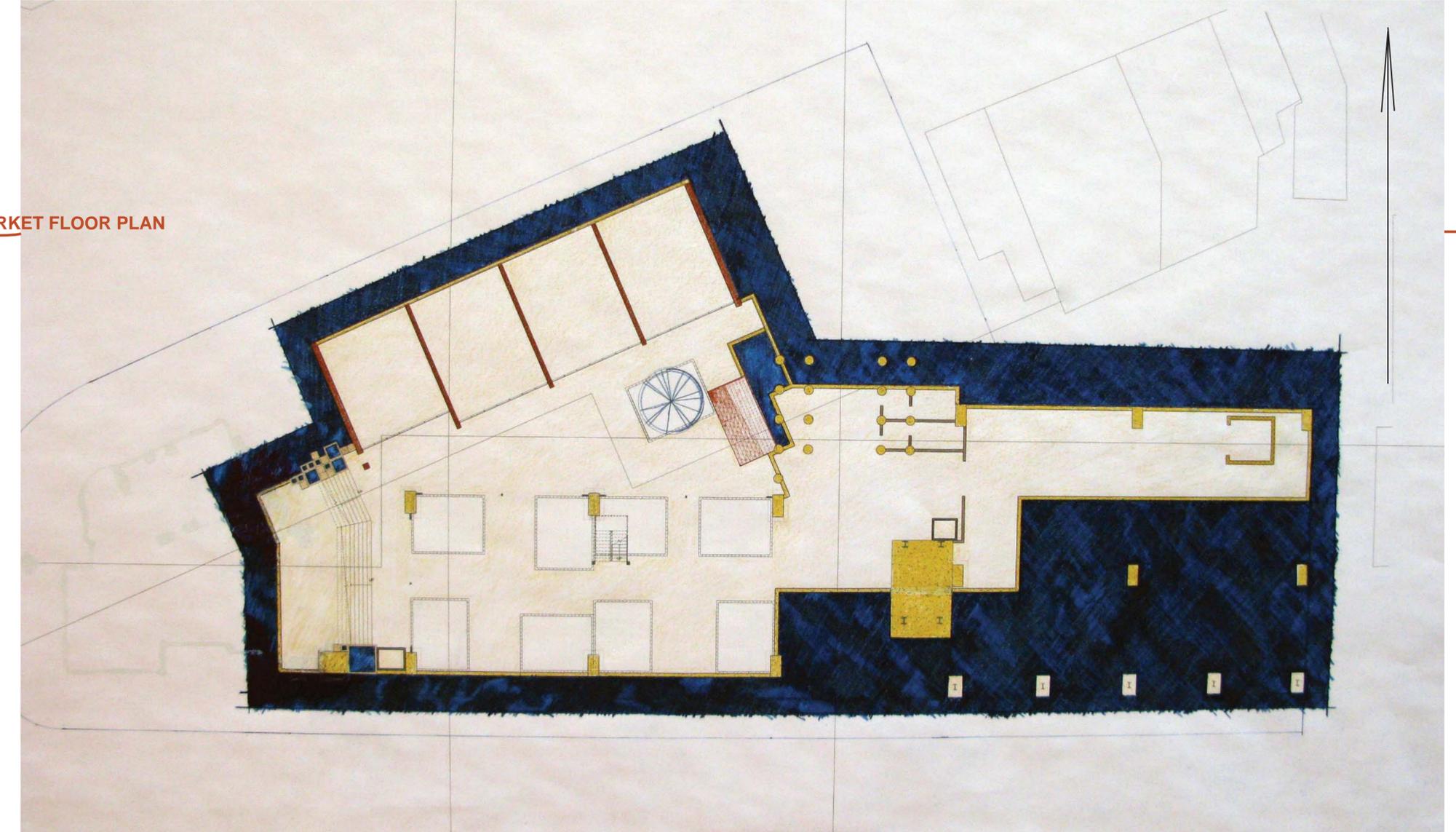
Development of texture within a framework. The framework provides comparison and contrast between textures and space. Personal preferences of the individual allow the creation of a relationship to the site that is unique to that individual.



Final Design

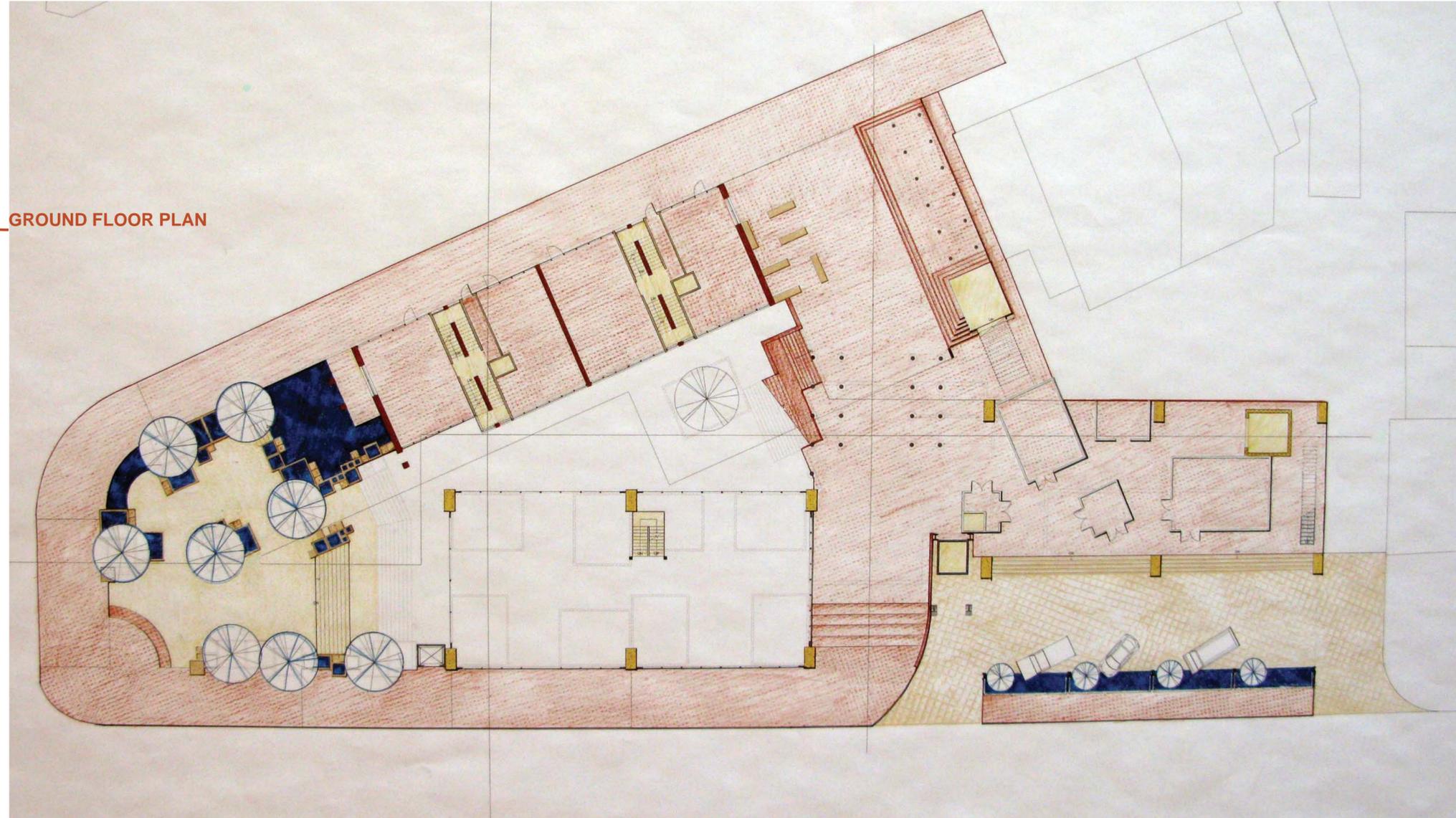
FLOOR PLANS

MARKET FLOOR PLAN

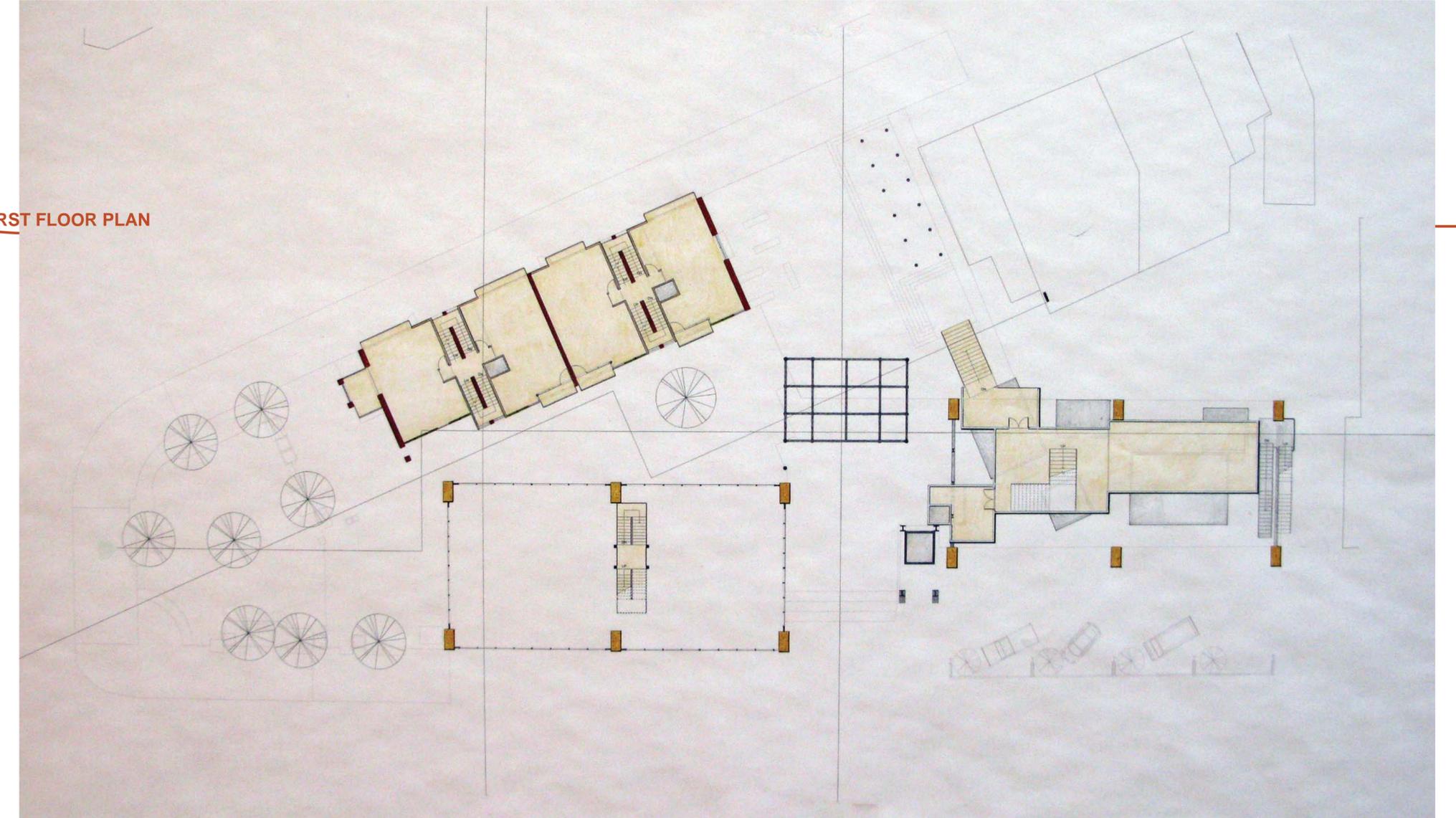


- texture
- weave
- transportation
- earth
- transition
- brick
- marketplace
- concrete
- relationships
- glass
- precious materials
- steel
- symbolism
- asphalt
- scale
- weft
- warp
- repetitive framework
- abundance
- choice
- formal
- informal
- variety

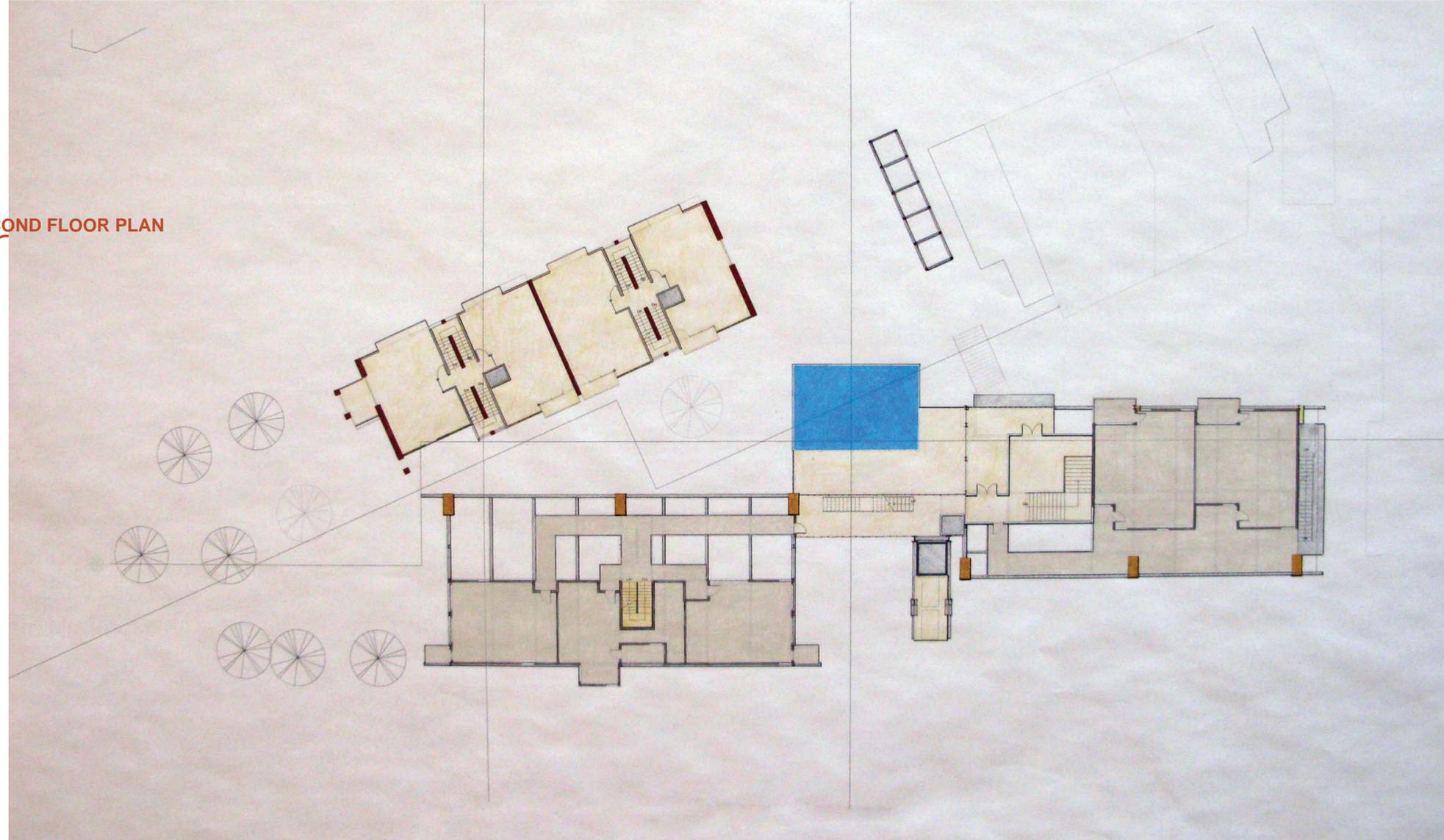
GROUND FLOOR PLAN



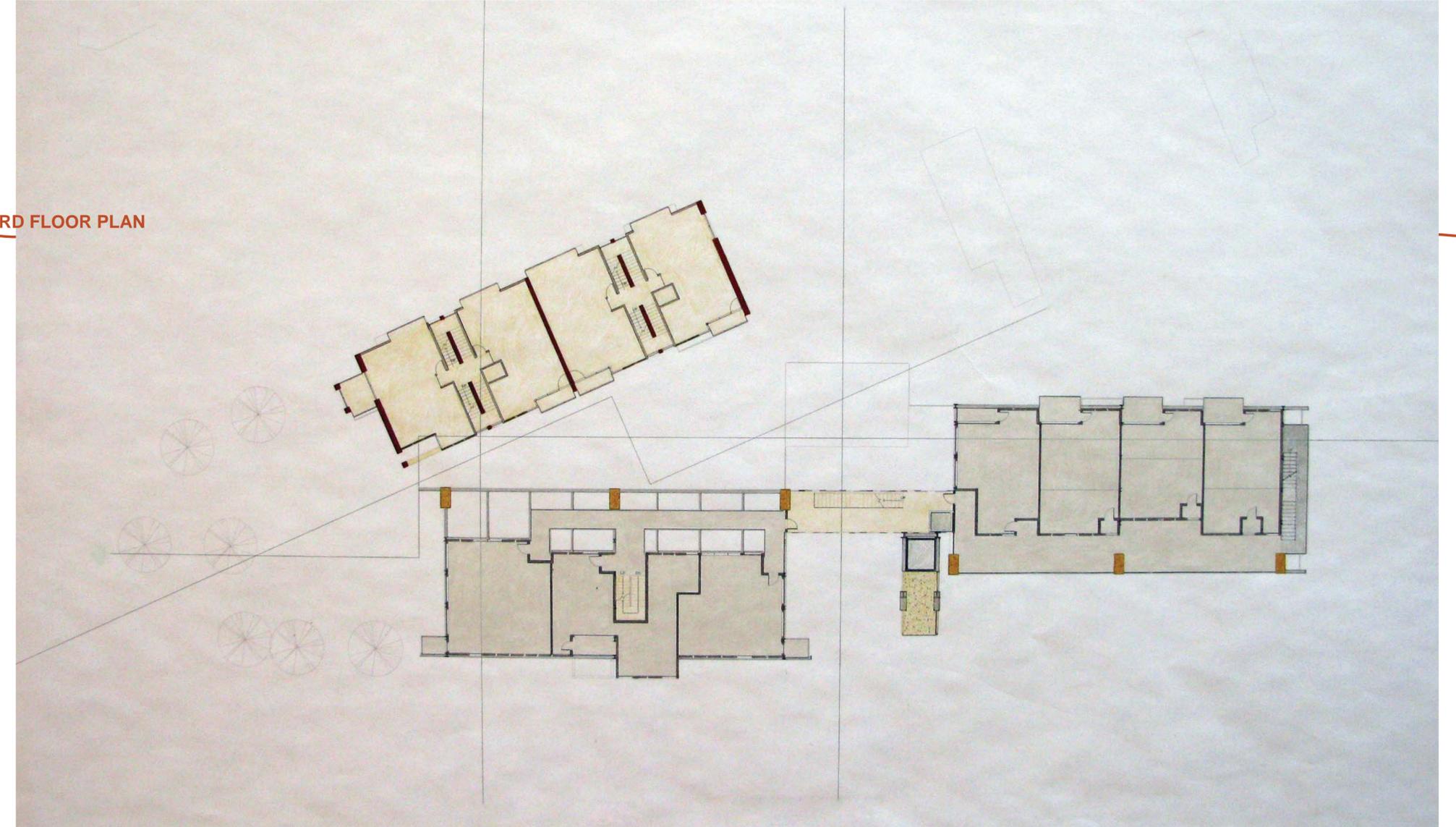
FIRST FLOOR PLAN



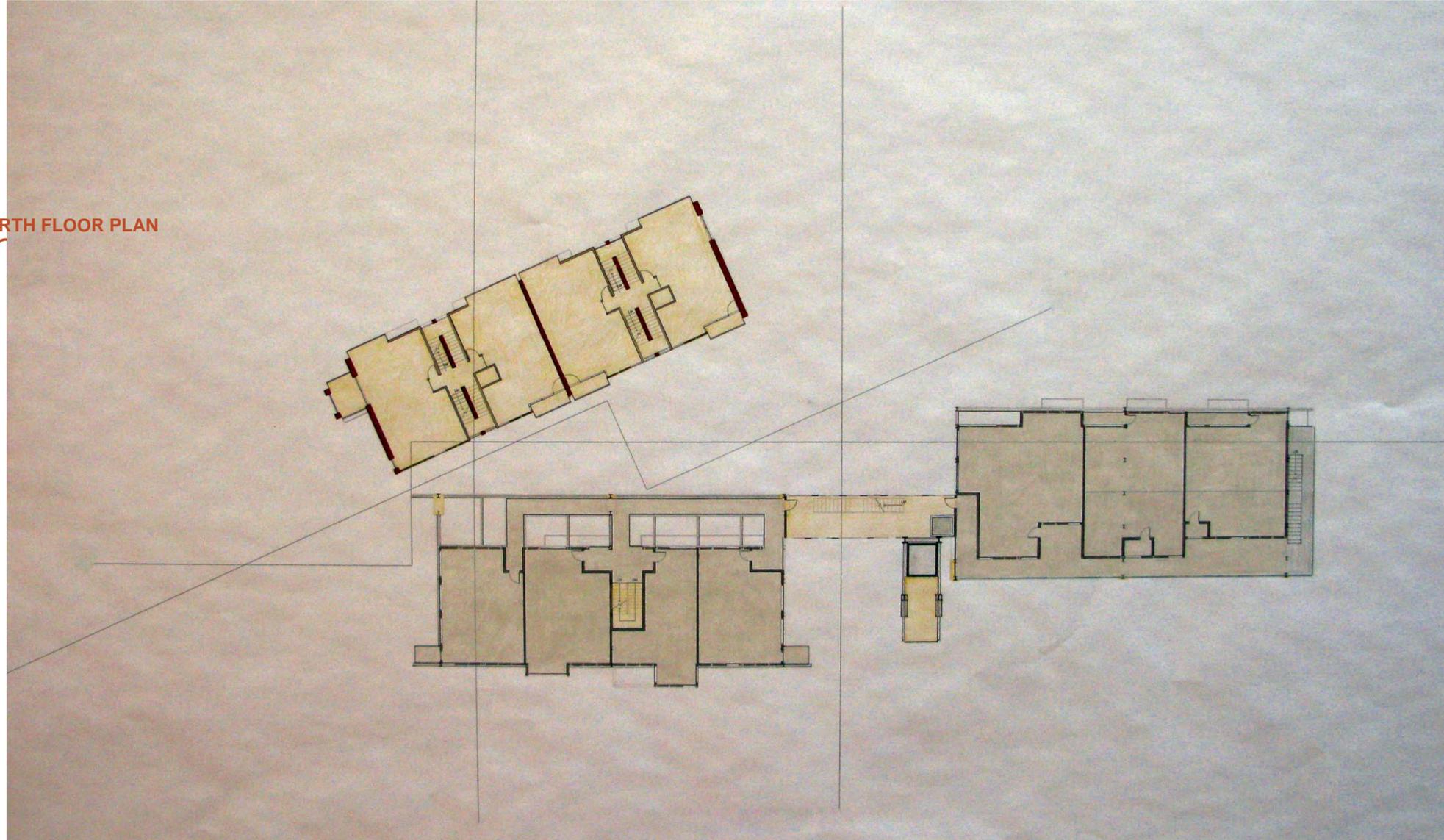
SECOND FLOOR PLAN



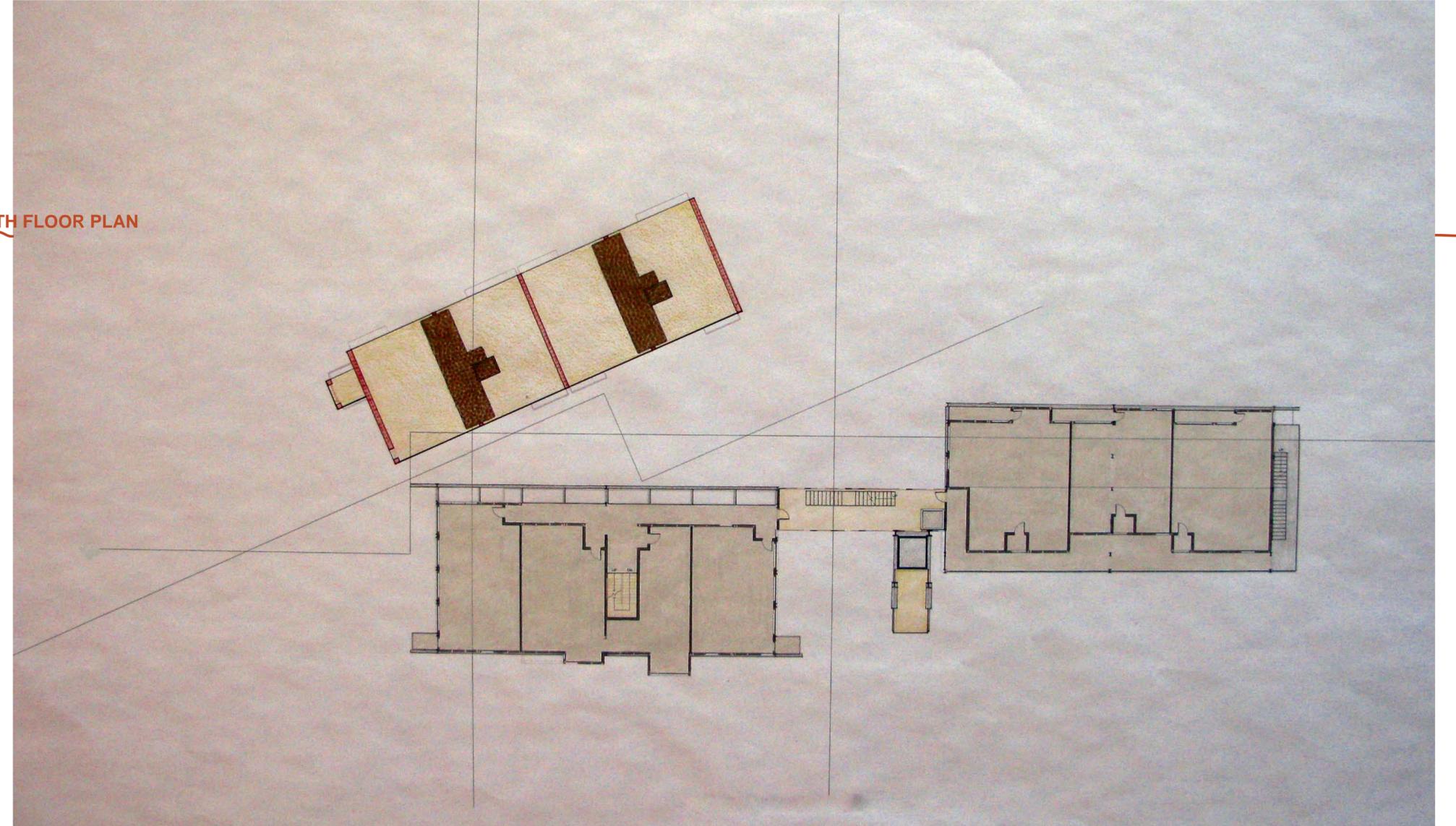
THIRD FLOOR PLAN



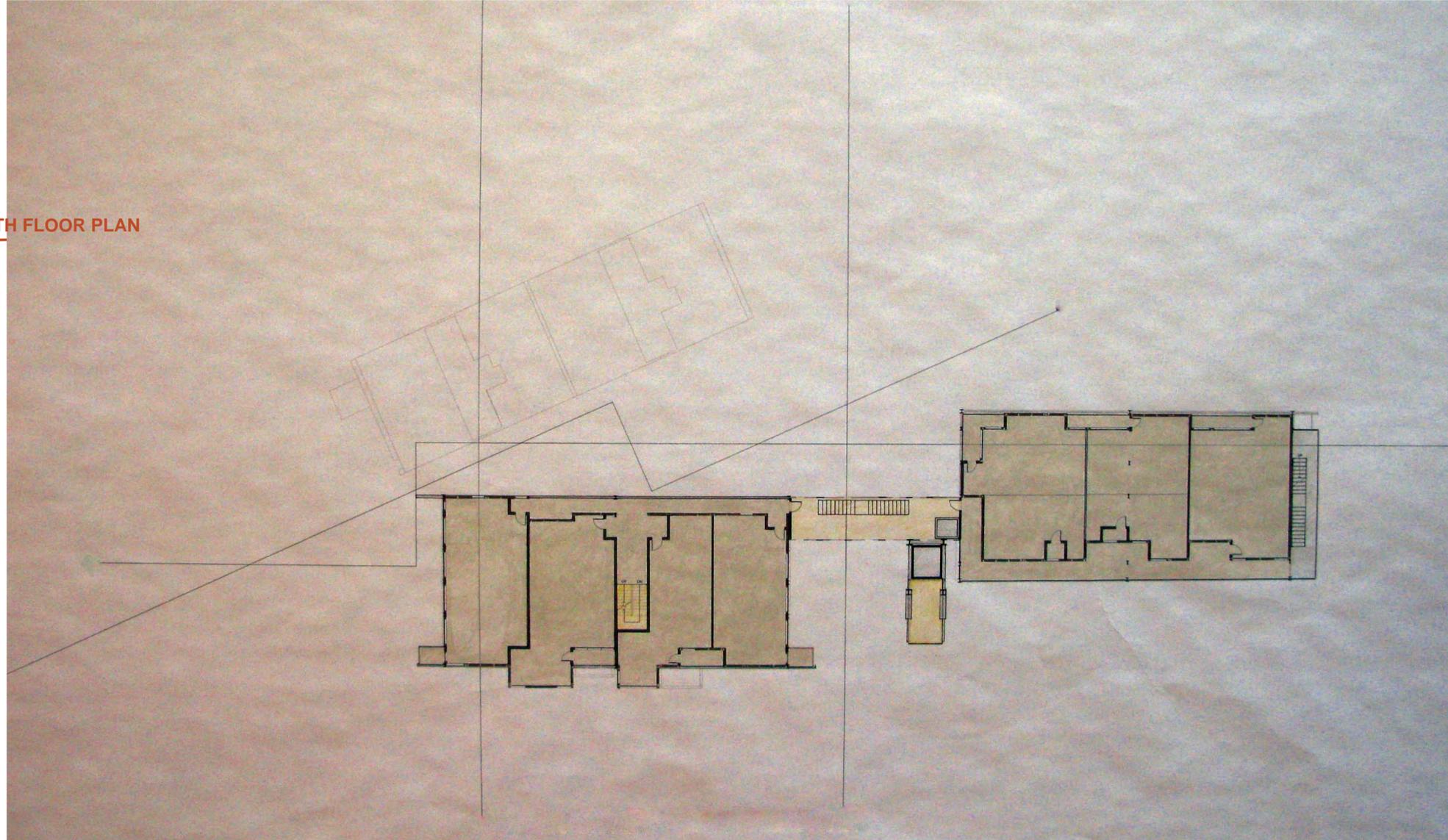
FOURTH FLOOR PLAN



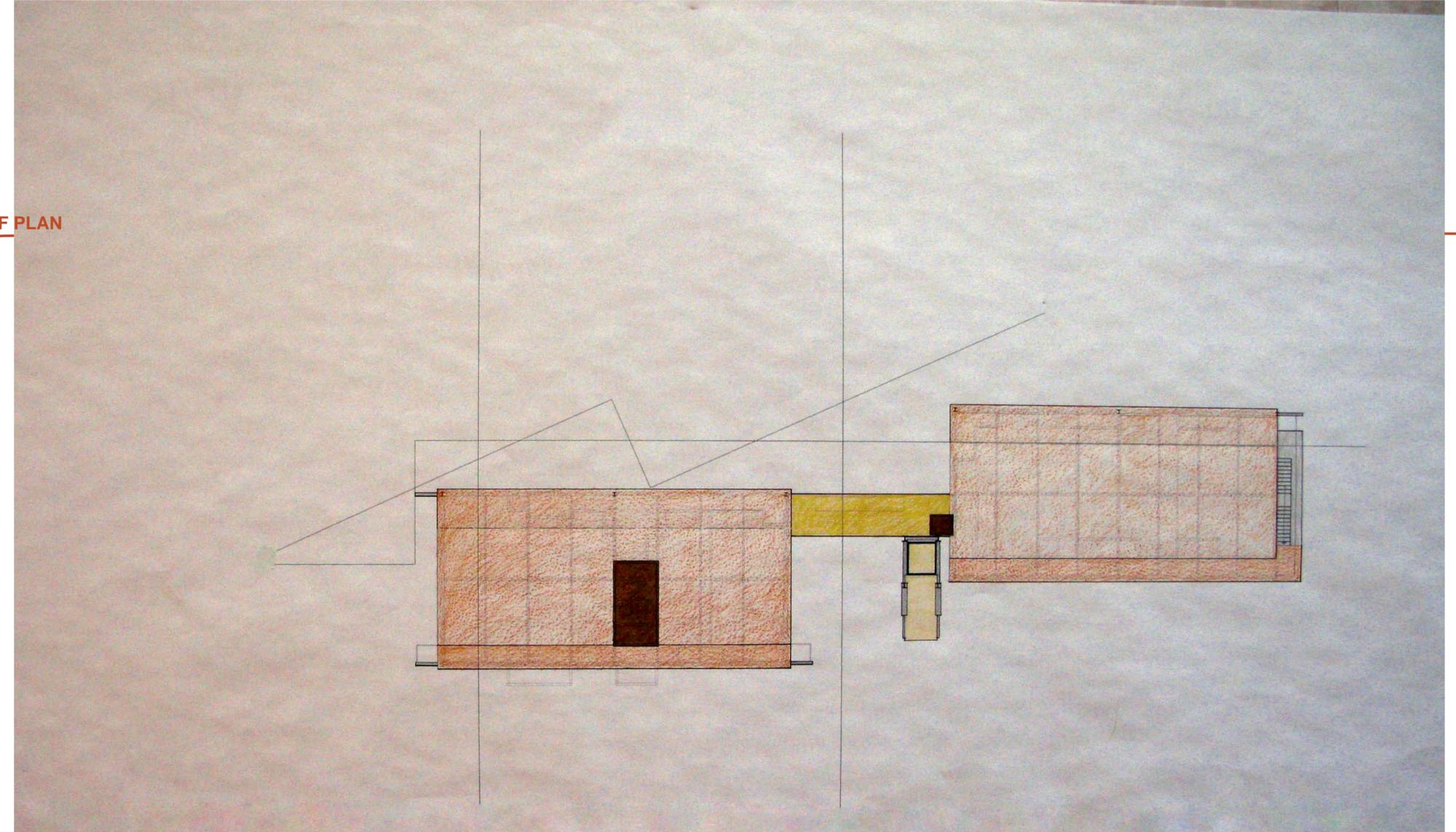
FIFTH FLOOR PLAN

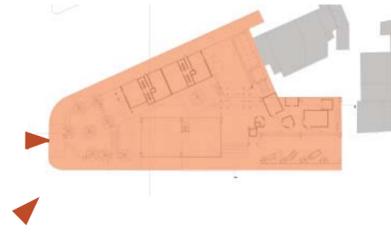


SIXTH FLOOR PLAN



ROOF PLAN





Final Design

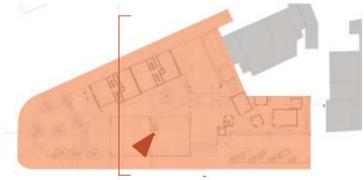
REVIT AND PHYSICAL MODELS

WEST FACADE

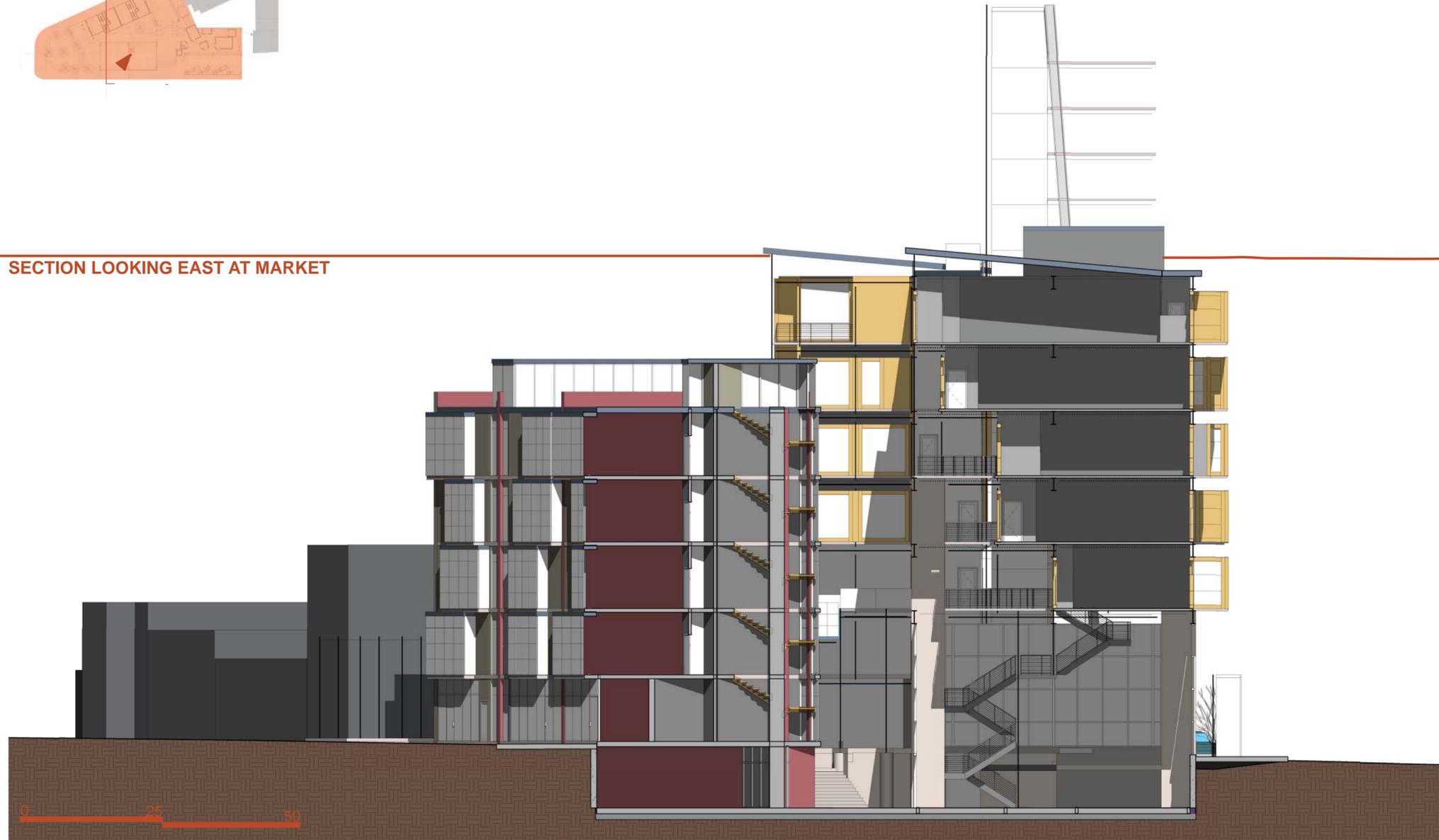


WEST ENTRANCE

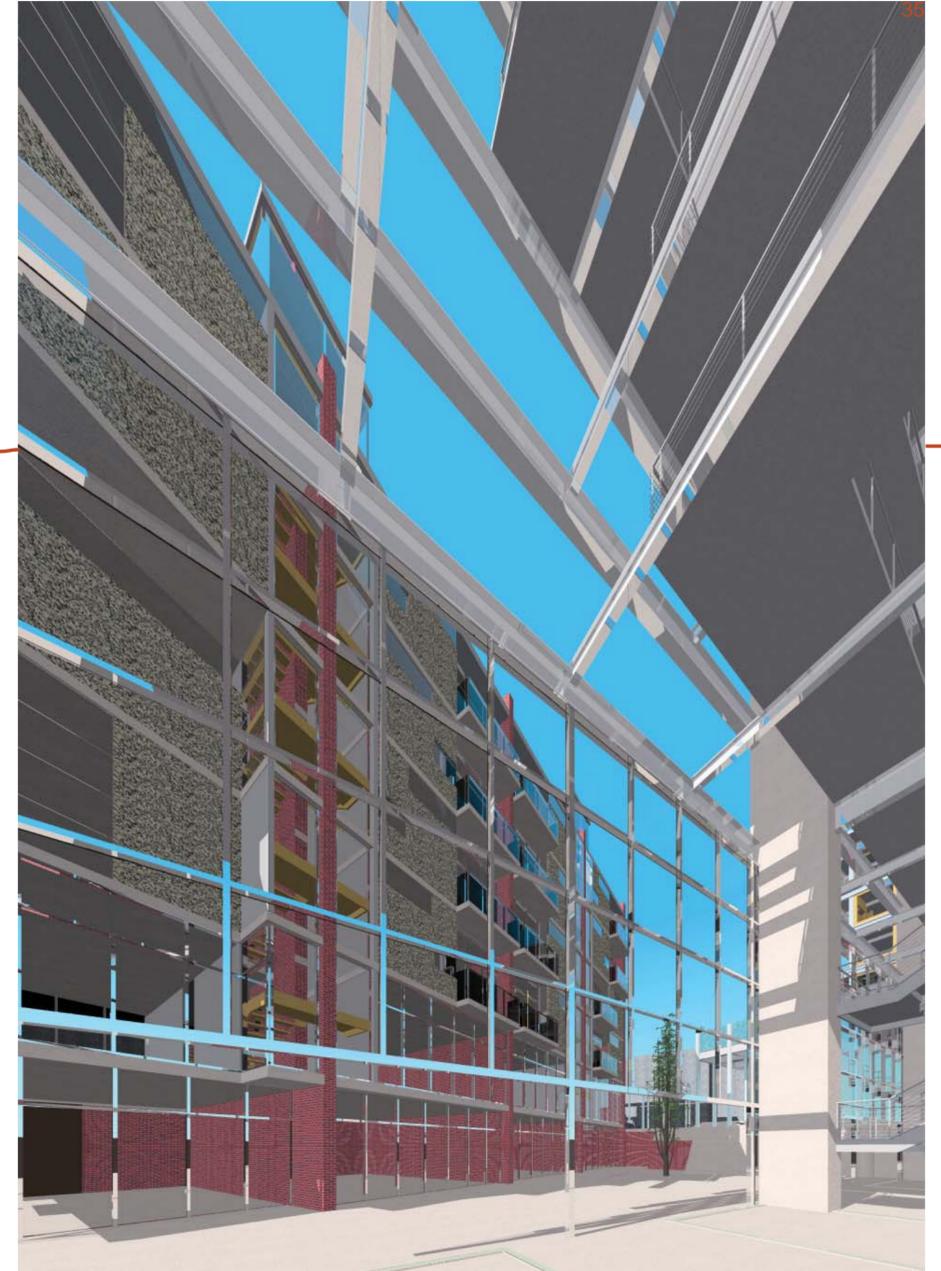


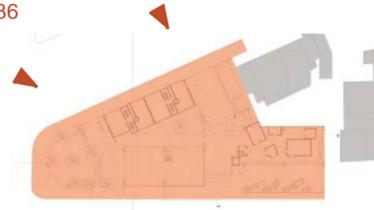


SECTION LOOKING EAST AT MARKET



VIEW FROM INSIDE MARKET



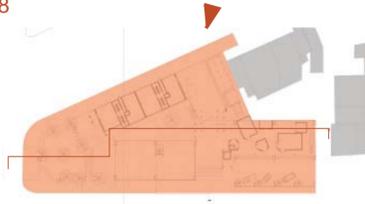


VIEW FROM NW



NORTH ELEVATION

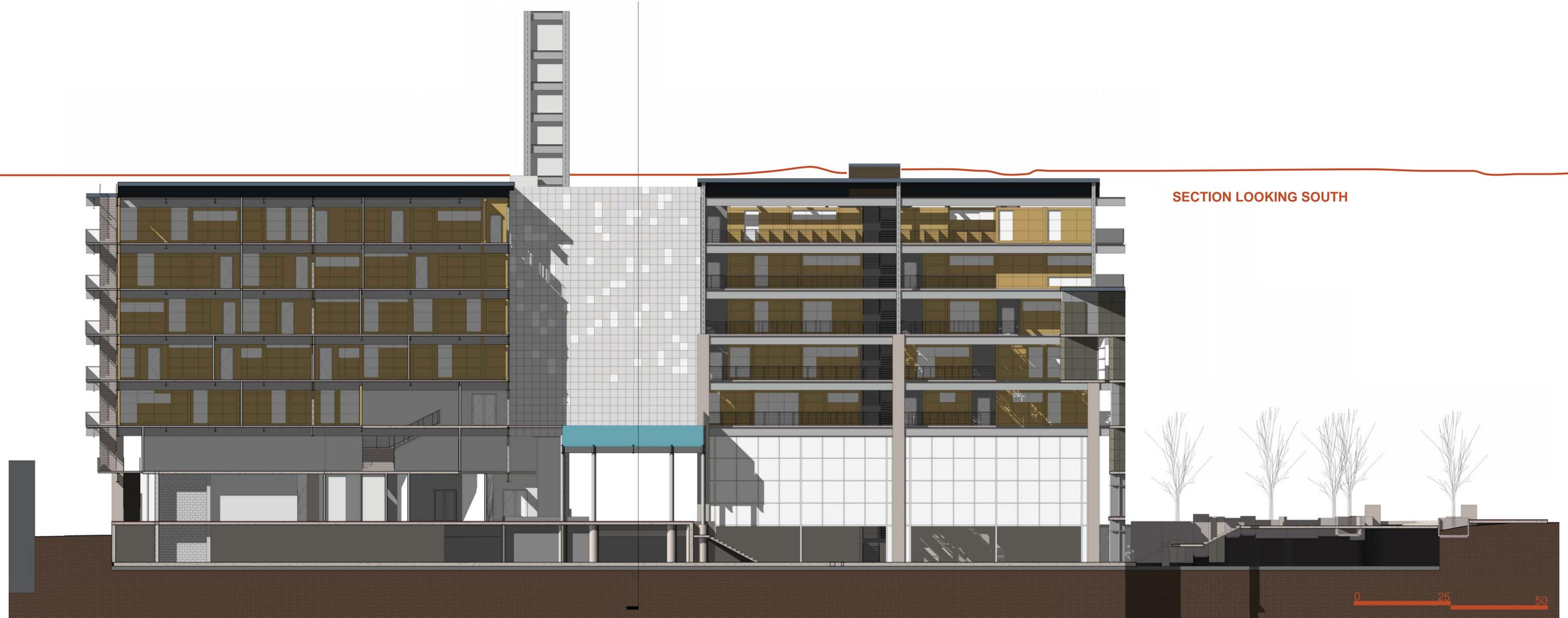


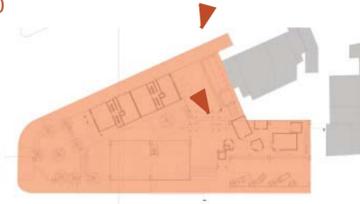


VIEW FROM ACROSS NY AVE



SECTION LOOKING SOUTH





VIEW FROM NE

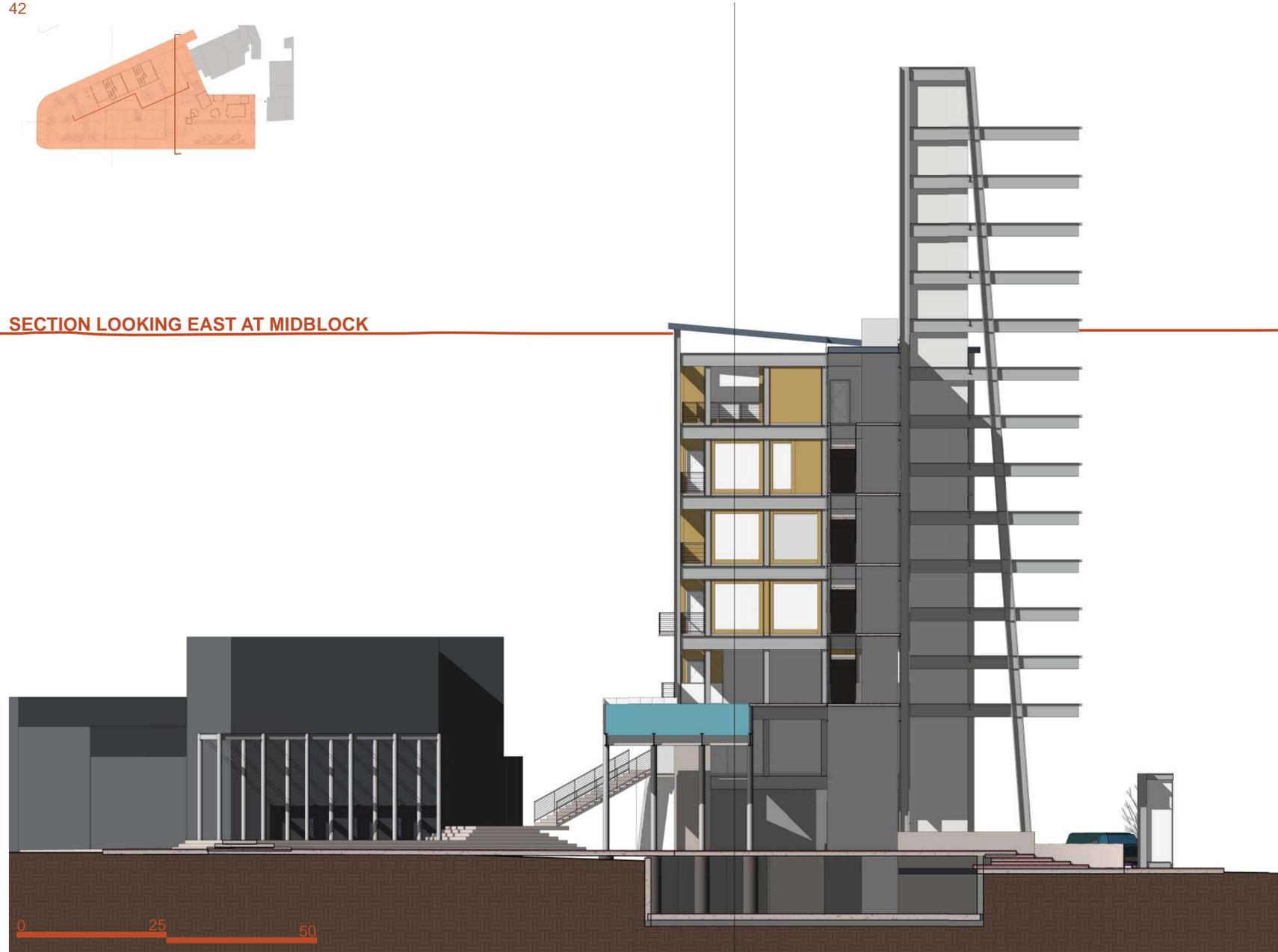


AT PLAZA THRU MIDBLOCK



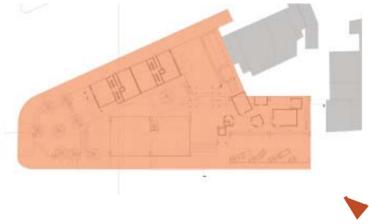


SECTION LOOKING EAST AT MIDBLOCK



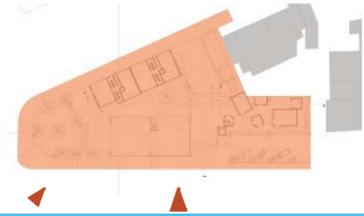
SECTION LOOKING NORTH





VIEW FROM SE





SOUTH ELEVATION



VIEW FROM SW



Conclusion

When we examine the word texture and its' relationship to architecture, we realize that this is the medium or palette that architects seek to manipulate. At the human scale architects use the texture of materials and construction details to evoke emotional responses.

The connection and play - weaving - of volume, void, and surface create architectural spaces that convey meaning or ideas. The concept that the texture of materials and spaces can have historical, often subconscious, meanings as well as support new meanings in response to new conditions will continue to provide a rich and meaningful source of ideas for architects.



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