

PROSCENIUM:  
BUILDING THE FOURTH WALL



*By Author*

# PROSCENIUM: BUILDING THE FOURTH WALL

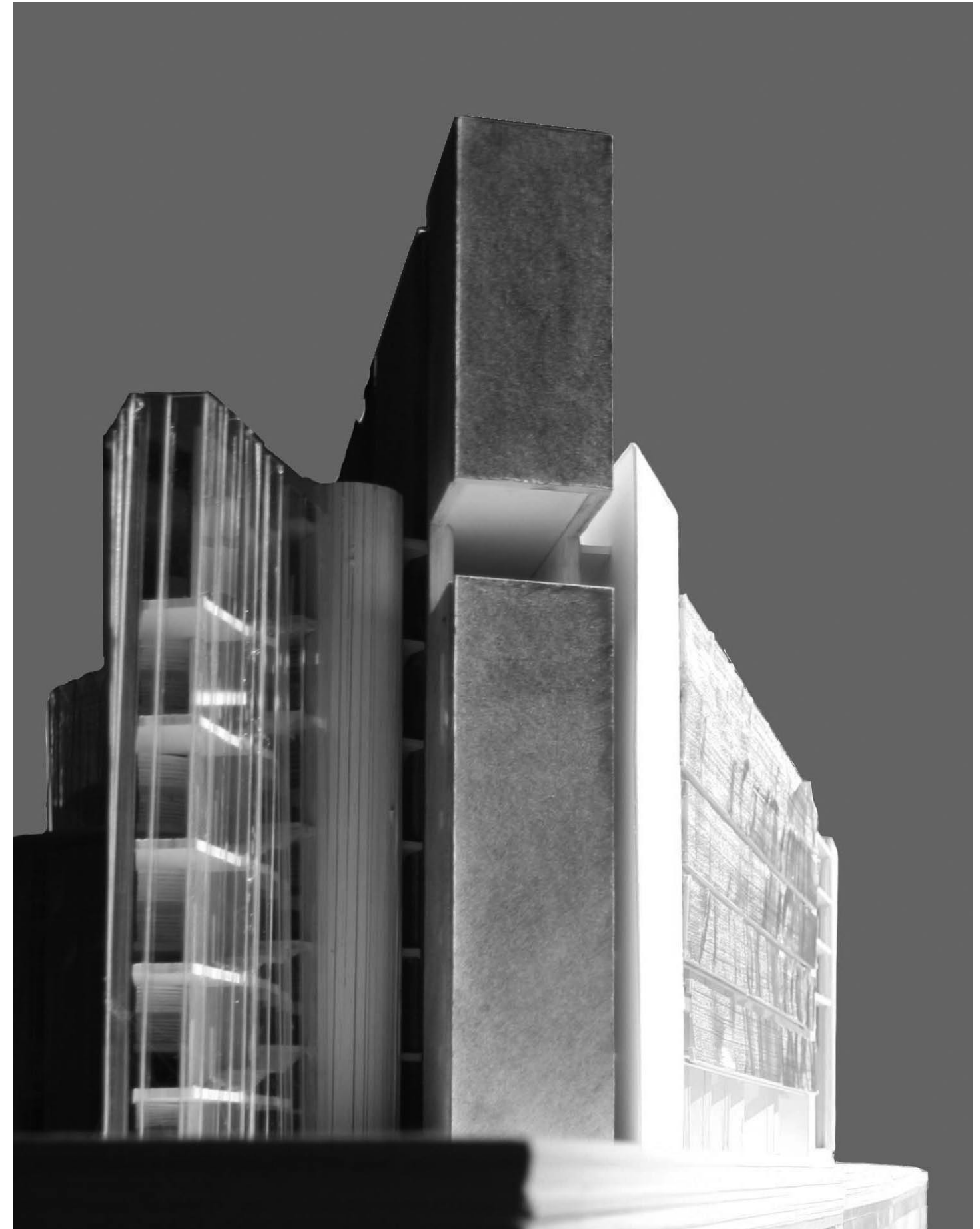
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THESIS SUBMITTED TO THE FACULTY OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS OF THE DEGREE OF MASTERS OF ARCHITECTURE

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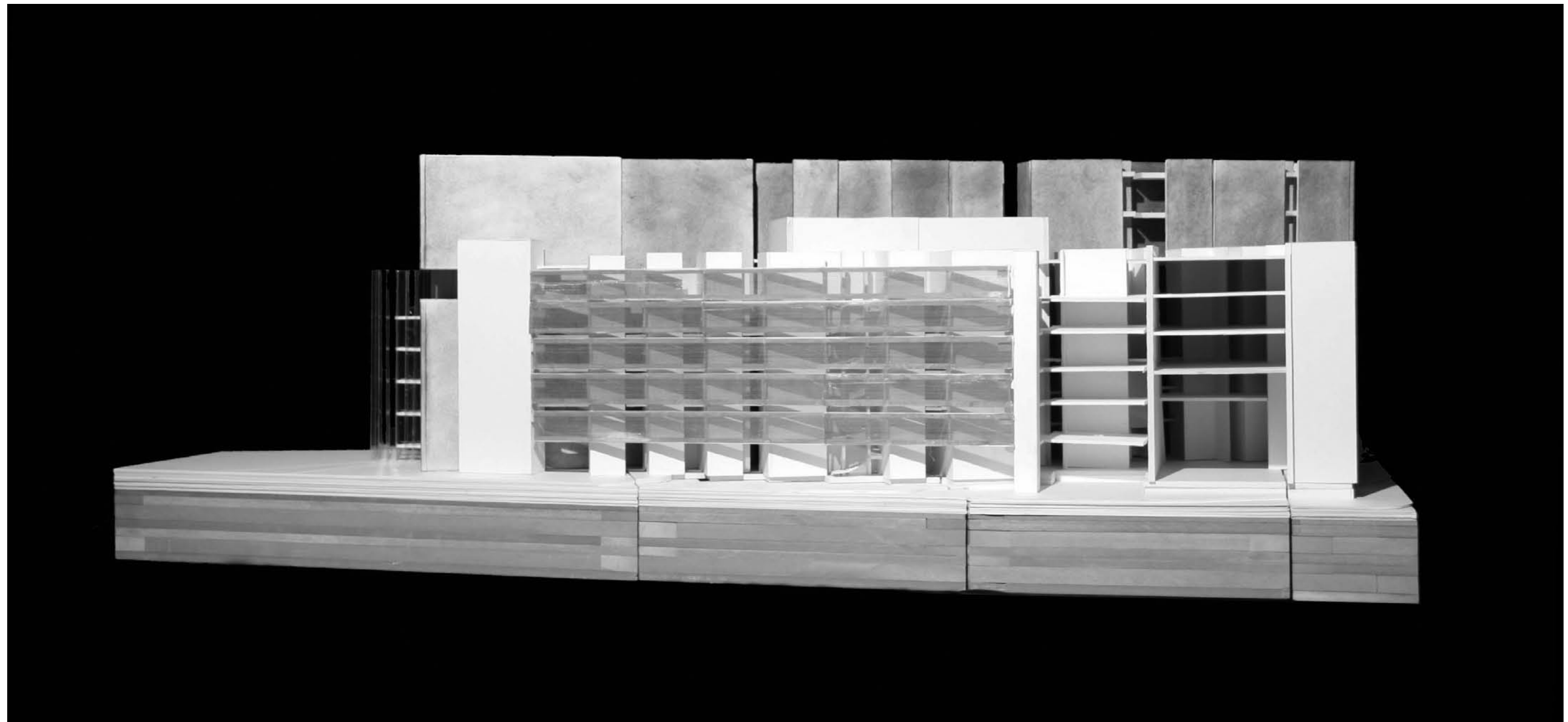


*View of building from Mt. Vernon Square looking east along K street, NW.*

*By Author*

## ABSTRACT

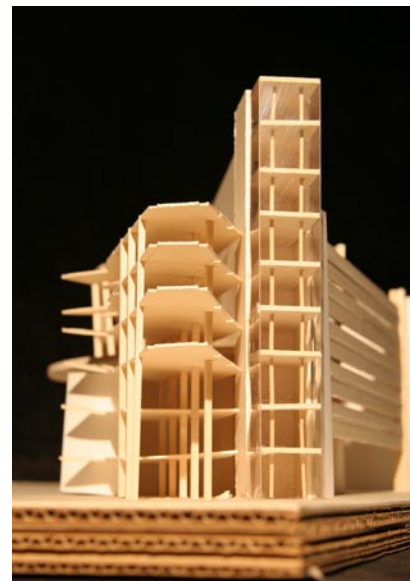
The key relationship in a theater is between the audience and the production staff. I explored this relationship through a performing arts complex located on Mt. Vernon Square in Washington DC. The two questions that drove the thesis were: How are the spaces occupied by the audience different from those that are occupied by the production staff? What is the architectural impact of the theatre's structure on the relationship of these two different groups and their spaces?



*South view of building. Production and shop spaces are found on this side of the building.  
By Author*

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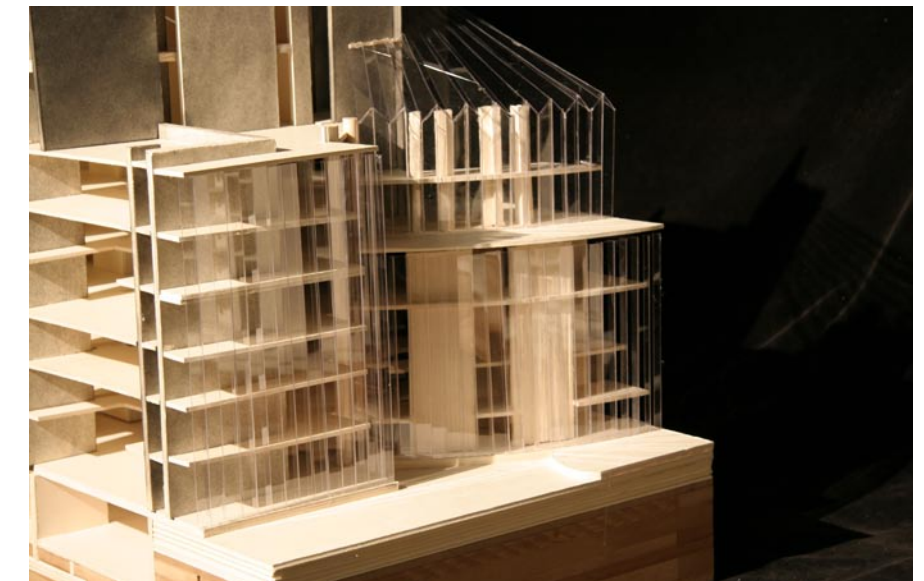
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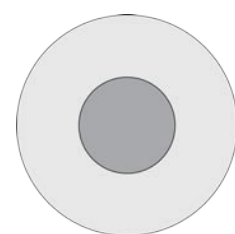
*Detail views of models*

*Image from cover: View of building along New York Avenue.*

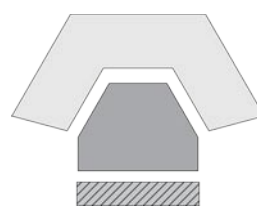
## A BRIEF HISTORY OF WESTERN THEATRE AND THEATERS

Theater in Western Culture originated in Greece specifically in Athens. Athens and the surrounding province had four major religious festivals each year. The largest of them was known as the City Dionysia which was for the god Dionysus. Taking place somewhere around March or April it was a series of contests and competitions between individuals and the tribes of Athens. Athens was divided into ten and eventually twelve to fifteen “tribes” or social groups that made up the city’s social hierarchy. The competitions between tribes started off as a singing and dancing competitions of what is known as the *dithyramb*. The *dithyramb* is a dancing and singing performance done by a choir of men that told stories about Athens and Dionysus. Each tribe would enter a choir of men and one of boys to compete. These choirs could number up to a thousand citizens each. They would dance and sing in large circles around an altar or fire that was near the temple of Dionysus. Thousands of spectators would come to watch the festival surrounding the *dithyramb*. These songs became more complex over time and eventually transformed into what we know as theater. The competitions that were popular with the *dithyramb* became even more so with the theatre festival. The festival’s structure eventually evolved into each tribe or group would perform three related dramas and a satyr play, which was a comedy related to the other dramas. The shift from the *dithyramb* to the theatre had marked changes in the structures they used for these related activities. The word orchestra in ancient Greek referred to the “dancing place”. This is the area that was populated by the *dithyramb* and many of the ruins of ancient theaters still have an altar in the center of these orchestras. Now instead of the audience fully surrounding the orchestra it changed and surrounded the orchestra on slightly more than three sides, orienting the audience toward a small wooden building called the *skene*. Within the *skene* some of the most spectacular parts of the Greek theatre were revealed. In the beginning, it was only used for storage of costumes, masks, and other things for the plays during the day, but it became more than that later, it allowed for grand entrances, hidden actions and most of all it became the place that the actor spoke looking over the chorus toward the audience. It created a focal point for the action of the stories. The *skene* also became a vehicle for mechanized improvements to the stage. Extra additions to the *skene* were added on each side, known a *paraskenion*, creating an enclosed area for the *proskenion*. The *proskenion* is a raised platform in front of the *skene* where the majority of the acting took place. The *skene* was used in a number of ways. Actors climbed on top of it for some things and a rolling platform called the *ekkyklyma* came out from the inside of it onto the *proskenion* allowing for bodies or objects to be brought onto stage for others. Multiple sided stage backdrops that revolved called *periaktos* were used to change the scene’s location or time of day. The *machina* is the most famous of these stage devices. It was a crane thought to have been behind the *skene* that would allow a person to be lowered onto stage from above. Typically these characters were gods or other mythical creatures coming down to the mortals from the heavens. The heavy use of this crane in dramas during the Greek theatre led to the Latin phrase “*Deus ex machina*” when translated is ‘god out of a machine’ but it is still used to refer to a situation that can only be resolved through a divine means.

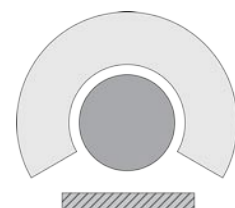
The Roman theatre was based on that from the Greeks but there were some differences. The audience area changed to a half circle from more than three quarters of one. Secondly the *skene* changed into the *scaena* which was a large multiple story structure that stretched from the outside of the audience to the same on the other side. The *scaena* was then divided into a separate staging area known as the *scaena frons* which traditionally had two to three stories of niches and columns for actors and action to occupy as well as a small stage in front of it for the main action of the plays. The staging area along with the rest was raised above the orchestra area now bisected by the *scaena*. Also the orchestras of the roman period had lost their altars or other central element possibly to the *scaena* itself. The Romans adopted the theatre as a form of entertainment and as such they no longer limited it to a singular religious festival. They disseminated it throughout the empire making it accessible to a variety of cultures and regions. Along with the art of theatre the Romans were builders and around the first century B.C. they



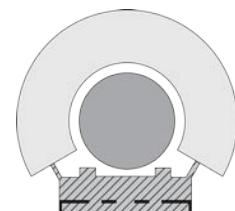
Dithyramb



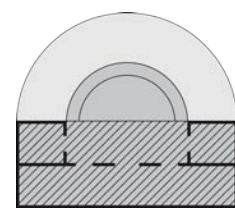
Early Greek



Middle Greek



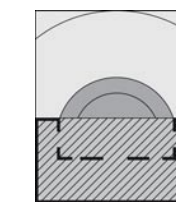
Late Greek



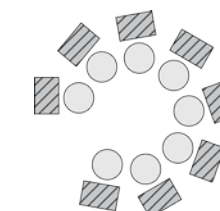
Late Roman

began to build permanent structures. Before this they would construct wooden structures for the festival much like the early Greeks and after the festival they would disassemble it. Eventually for the Romans the number of festivals and the regular use of the structures became so heavy that they began building permanent structures out of stone and cement. These large buildings were some of the largest in the city many times rivaling the gladiatorial arena, baths, and marketplaces in size and scope in many cities.

From the fall of the Roman Empire in Western Europe until the middle ages theatre as a large spectacle vanished. The plays were read and many were lost and theatre became divided. An academic understanding and preservation of the ancient works occurred through the church and other means, allowing for the rebirth hundreds of years later. The other half of theater struggled to find a foothold in the performance traditions. Small troupes of men would wander throughout Europe performing, in city squares, a character based improvisational story, like a soap opera, and in very rare cases ancient texts from Rome. The roman texts that survived in many cases were used by scholars to teach Latin not as encouragement for performance but as text to translate. A lot of this was brought along by the western Catholic Church which saw theatre as a means to the devil. In the tenth century A.D. the church revived theatre as a means of teaching. Liturgical drama was, and in some cases still is, a skit or scene that was enacted as part of the church service. These skits would illustrate a point in the sermon or reference an important day. Liturgical drama took place within the church or on some special days on the church steps as part of the mass. It actually began with the tropes, which were expansions on the authorized liturgy to expand understanding, impact or its appeal. The tropes were often set to music and many times was a sung dialogue between groups much like the ancient Greek choruses of the dithyramb or the early Greek theatre. These tropes became less musical over time becoming dialogues between groups and eventually individuals. Cycle plays were used to teach the scriptural history through illustration by the different craft guilds that would participate in the feast and celebration of certain holidays. Cycle plays were also known as pageant plays. They were performed on a series of wagons known as pageants that were built by the guilds of a city. These plays would illustrate the story of a saint, miracle, or of an important historical event to the church. The modern Easter pageant is a descendent of these plays. Each wagon would have one scene from the play as a whole, and they would perform it again and again throughout the festival. There is evidence that the carts were drawn through a town each pageant stopping where the last had, so the spectators could see the next play. There also is evidence that the carts were rolled into the town square or in front of the church where the audience would walk from cart to cart watching one play at a time. Because each cart was sponsored by a guild and these festivals became so popular many of the guilds tried to build the largest and most extravagant pageant. Each guild had ownership over the play they performed and it was passed down through the generations. The York cycle has forty-eight plays that make up its entirety and the festival associated with it took many days. As the plays became more complex the wagons became part of the stage and not its entirety acting more like a skene by providing an orientation as well as a structure to produce special effects and perform costume changes.



Roman Indoor Theater



Pageant Wagons

Morality plays were and are a form of drama that illustrates certain teachings and many times the pitfalls of Christian life. The most famous of the morality plays is “Everyman” where the pitfalls of facing our death are explored and the acceptance of god is a given. Morality plays were less formal in presentation and no strict presentational form ever developed. However, the everlasting footprint of the morality drama at this time cannot be understated. The form of the storytelling and conventions for psychological conflict, resolution, and anguish in modern storytelling is reliant on this. Almost all secular drama, opera, film, television, radio, and books have been influenced by its many qualities and examples from this time. The relationship established between the actor and the audience is first established within the text. These textual references directly influence the ways that the stage is set to the audience. Through the proliferation of this play type it established a universal texturally based permanent theatre reviving non secular drama. Their popularity arose

## A BRIEF HISTORY OF WESTERN THEATRE AND THEATERS

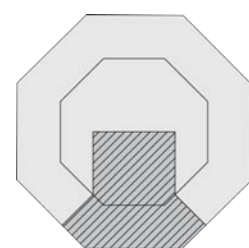
from their lack of direct relationship to scripture, and over time these plays became more and more graphic. So much so that the church tried to stop them, but by that point it was too late and theatre had been reborn. So the lasting heritage of the morality play is subtle and hidden within a larger question about popular culture. Once the art had been rediscovered and an educated class of the renaissance combined this new performance with the ancient roman texts they were taught with Latin. So Shakespeare, Marlow, and many others gave birth to secular drama.

Late medieval and Elizabethan theatre was dominated by troupes of actors who during the Middle Ages would wander through out the country and perform in the city as street performers. Now these troupes wandered from town to town trying to strike a deal with an innkeeper in order to perform in the inn's yard. Inn yards were moderately sized enclosed spaces that the innkeeper and the troupe could use to limit the viewers and charge an entrance fee to see the show. Many times the audience would be surrounding the actors on three or more sides with spectators on balconies above them in addition to those on the ground. In England especially this form led to the wooden "O" theater which was a series of narrow balconies surrounding a courtyard and a small raised stage. These buildings were built when health and fire concerns drove the magistrates in London to outlaw performances in inn yards.

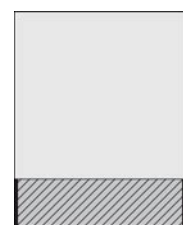
Many of these troupes were also sponsored by nobles who held titles and lands. They would perform in manors, palaces, and other homes for the aristocrats. These troupes were not different; the same men who played for the king might play for a penny a head the next day. The players would perform in a large room within the palace usually set up on one end while the audience sat in rows parallel to the front of the stage. The large theatres, opera houses, and concert halls built in the renaissance and baroque periods are modeled in a way from these rooms within the palaces that the early performances took place. The ornament and texture of these spaces were related to the *Grand Salles* of the palace but the structure of the building remained in the scale of the Roman theatres.

Sebastiano Serlio in the mid sixteenth century wrote a number of books on architecture. Among these works were a series of thoughts about theater design. Serlio was a student of historical architecture and through that historical theater design. He had knowledge of ancient Greek and Roman theaters and amphitheatres. The most influential part of his book was a discussion on forced perspective staging design. He proposed and described a series of scaffolding for the audience to sit on as well as a sloped stage with a series of painted walls. When the painting and slope worked together an illusion of depth could be achieved. This method of staging was intended to be placed in the town square or other common area as part of a festival. Also as part of his discussion he puts forth a theory that theater set design should only need three types of backgrounds; a palace or civic scene for tragedies, a scene from around the city such as city street, a house, or an inn for comedies, and a forest scene for satyr plays that involve the gods and their interactions with the mortals. Serlio's book and design was influential on the theater design throughout the renaissance. Theater design at this point becomes somewhat pictorial and the staging is somewhat less important. It is worthwhile to note that great leaps in theater building design are almost never coincide with great leaps in theater staging or literary advancement. The leap that Serlio initiates in theater design is not a response to the literary needs of the age but rather a reflection on historical texts and buildings. The eventual repercussions of what Serlio proposes are not felt until much later. This as I said is not a new thing. Many of the greatest works of the Greek theatre took place either before or after the design of the theater Dionysus.

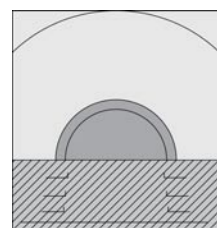
Palladio was aware of Serlio's book and took this idea and expanded upon it with *Teatro Olimpico*. Palladio unquestionably designed and built the small theater. The auditorium, orchestra, and stage with arcade are Palladio's design. This stage is one of the most famous from this time period of stage design. Palladio is considered one of the great architects and many of his



Wooden "O"  
Shakespeare's  
Globe



Grand Salle



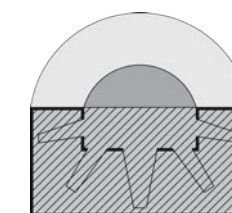
Serlio's  
Perspective Stage

buildings are still studied today. Formally the theatre structure is a scaled down version of a roman theater. The interior of it presents the full facade of an exterior roman theater complete with a statue lined balcony above the theater with a ceiling painted like the sky. The stage's back wall has statues, carvings and paintings with classical themes. Within this wall are five openings and this is where this theater differs from others. *Teatro Olimpico* has an expansion on Serlio's single point perspective stage setting and it includes a three point forced perspective setting through the openings in the wall. It is taken for granted that because Palladio designed the stage he then must have designed the stage setting behind it. However, after Palladio's death in 1580 another designer by the name of Vincenzo Scamozzi was hired to design the forced perspective set because Palladio had only left a sketch of the design. This dynamic setting along with some of Scamozzi's other work became very popular with court festival theatre all over Italy.

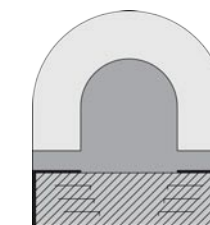
All of this culminated with Giambattista Allotti in Parma with *Teatro Farnese*. *Teatro Farnese* is important because it was the first true proscenium theater. In the great tradition of Italian and Roman opulence the theater was capable of much more than straight performance. The theater had a U shaped audience area leaving a great area capable of large floor shows. These shows included horse shows, as well as human performances. This area could also be sealed off and a pump in the basement of the building could be used to pump water in this area for water shows. However, the stage was the most historically interesting part of the building. The stage had an ornately decorated proscenium wall with a large stage opening. This opening differs from Palladio's smaller openings but the greatest difference is that stage machinery could be incorporated behind the proscenium wall. Before this point different scenes could be on stage during a show by sliding them along the floor using tracks in the stage floor. The stage machinery allowed the scenery to be released from the floor and lifted up into the ceiling. Also the change of painted drops and other stage technology became possible. This stage became the start of modern theatre technology. The Italian diffusion of opera and musical theater throughout Europe brought the stage technology along with it. Italian stage designers and architects were sought all over Europe for their expertise. The diffusion of opera and theater to the courts of Europe eventually led to the public appreciation of performed theater that led the Moliere and Shakespeare.

The Italians during the next two to three centuries become the true powerhouses of modern theater. They solved the early issues with these interior theatrical spaces. They developed methods to artificially light and control the environment of the theatre. The basic premise of the theater technology they developed is still used today.

Attitudes toward the performance arts change like a pendulum. The public's need for them to make political statements about society changes swings toward an attitude toward pure spectacle. By studying Greek texts and other accounts of performances these trends appear to go all the way back to the beginning of theater. It may be the nature of society to have both of these things coming in waves over the course of our culture.



Palladio's  
Teatro Olimpico



Allotti's  
Teatro Farnese

Note that the diagrams are not to scale and are meant to be illustrative of the historical evolution of theaters and their parts.

Orchestra ■ Audience ■ Stage ■

## MT. VERNON SQUARE AND THE SURROUNDING CITY

1. OLD CARNEGIE LIBRARY, FORMER CENTRAL LIBRARY OF DC, CURRENTLY THE NATIONAL MUSIC CENTER
2. NEW DC CONVENTION CENTER
3. HEADQUARTERS OF THE UNITED ASSOCIATION OF JOURNEYMEN AND APPRENTICES OF THE PLUMBING AND PIPE FITTING INDUSTRY OF THE UNITED STATES AND CANADA
4. MT. VERNON PLACE METHODIST CHURCH
5. 901 NEW YORK AVE., MIXED USE BUILDING.
6. OLD DC CONVENTION CENTER SITE
7. TECH WORLD PLAZA, WHICH INCLUDES A RENAISSANCE HOTEL
8. 650 MASS AVE. NW, MIXED USE BUILDING.
9. NATIONAL PUBLIC RADIO HEADQUARTERS
10. SELECTED BUILDING SITE
11. OLD SHAW NEIGHBORHOOD, BLOCK INCLUDES THE WAREHOUSE THEATRE AND BAR

Washington DC has an orthogonal grid that spans the majority of the city. A series of diagonal streets cut through the city dividing it up. Many of the important spaces within the city occur where these streets intersect. These intersections create public spaces such as DuPont Circle, Washington Circle and Lincoln Square. DuPont circle is rimmed by residential scale buildings. In the circle is a public park with a fountain. It is an oasis within the larger city. A place to watch the city pass by but be separated from it. Washington Circle has larger buildings such as the old George Town University Hospital. Georgetown is older than the rest of the city so Washington Circle provides an opportunity for the city to shift geometry. Lincoln Square is on the opposite side of the city and is in a residential neighborhood of Capitol Hill. It is a break in the meridian line that divides the city into two. The buildings on this square are tightly concentrated when they are not connected and abut the sidewalk. In a way they form the wall of an urban room. The distances up and down East Capitol Street are somehow diminished when on the square. It feels much more intimate than the space should. The buildings that surround it help because of their scale to the size of the square. The central space of square is fairly open with a few trees a statue of Lincoln and a couple of sculptures.

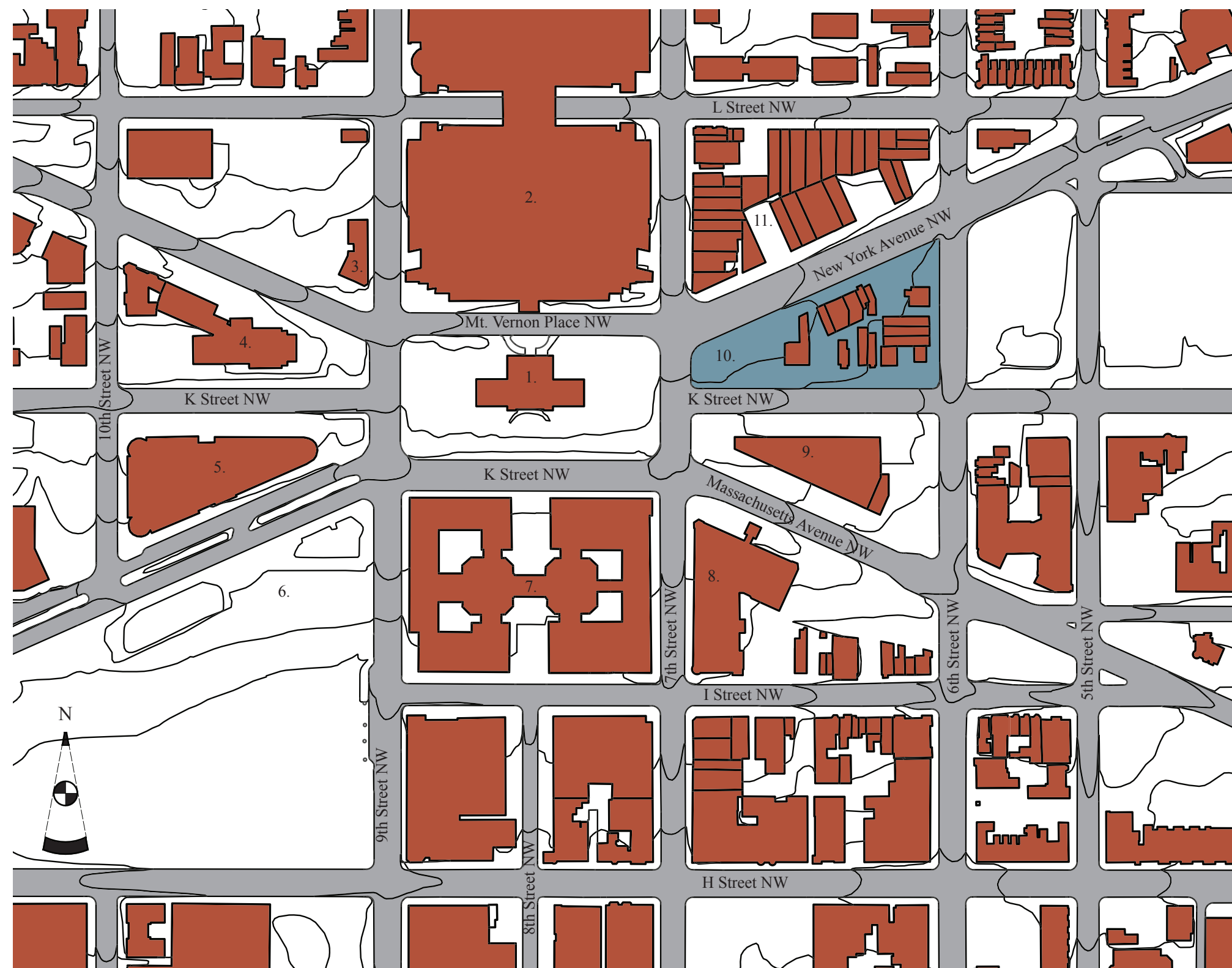
Mt. Vernon Square is different from these spaces. At the center of the square is the old Carnegie Library. The square was part of the L'Enfant plan as an open reserve in the north section of the city. The site previously held a fire station and a market. In 1903 the DC Central library opened using a grant from Andrew Carnegie as part of his library program at the time. This building held the central library for the District until 1970 when a new library was built. In 1999 the Carnegie library was designated as a historical landmark.

At one time the buildings surrounding the square were residential in scale much like Lincoln Square or DuPont Circle. But the neighborhood was less affluent and the buildings fell into disrepair. As this part of the city has been gentrified the method of choice has been to tear down the older structures in favor of large commercial size buildings. These buildings in many cases take up the entire block they reside on. The new Washington Convention center takes three full city blocks. It could be argued that it in fact takes six blocks but the erasure of 8th street NW on this site was probably due since

the blocks were rather small compared to the rest of the city. 8th street to the south of the square is just a pedestrian walkway with the building that takes up the street surrounding and crossing over it in many places. These two buildings sit rather close to the street for their scale. Other buildings on the square are the NPR headquarters, a mix use office building, a hotel, the old convention center site, a Methodist church, a residential building surrounded by a parking lot, and the southern most block of the Shaw historic district.

When you are in the square, the size of it is hard to gauge because the building in the center along with the landscaping make it hard to see all the edges

of the square at once. Also smaller park spaces occur at the acute corners of the blocks surrounding the square making an invisible edge hard to establish. As an oasis from the city it lacks the serenity DuPont circle can have and the cohesive space that Lincoln square has. However, the city is trying to redefine what this part of the city wants to be. With the establishment of the Convention center, the NPR building, and the 8th Street bridge, the site I have chosen dictates a continuation of this urban condition in hopes of finishing the square and servicing the Library in its center. The library needs to become an object within the square not the square itself which it still seems to be right now.



THE BUILDINGS AND LANDMARKS AROUND MT. VERNON SQUARE



1. United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry.

By Author



2. Mt. Vernon Place Methodist Church

By Author



3. 901 NEW YORK AVE., MIXED USE BUILDING.

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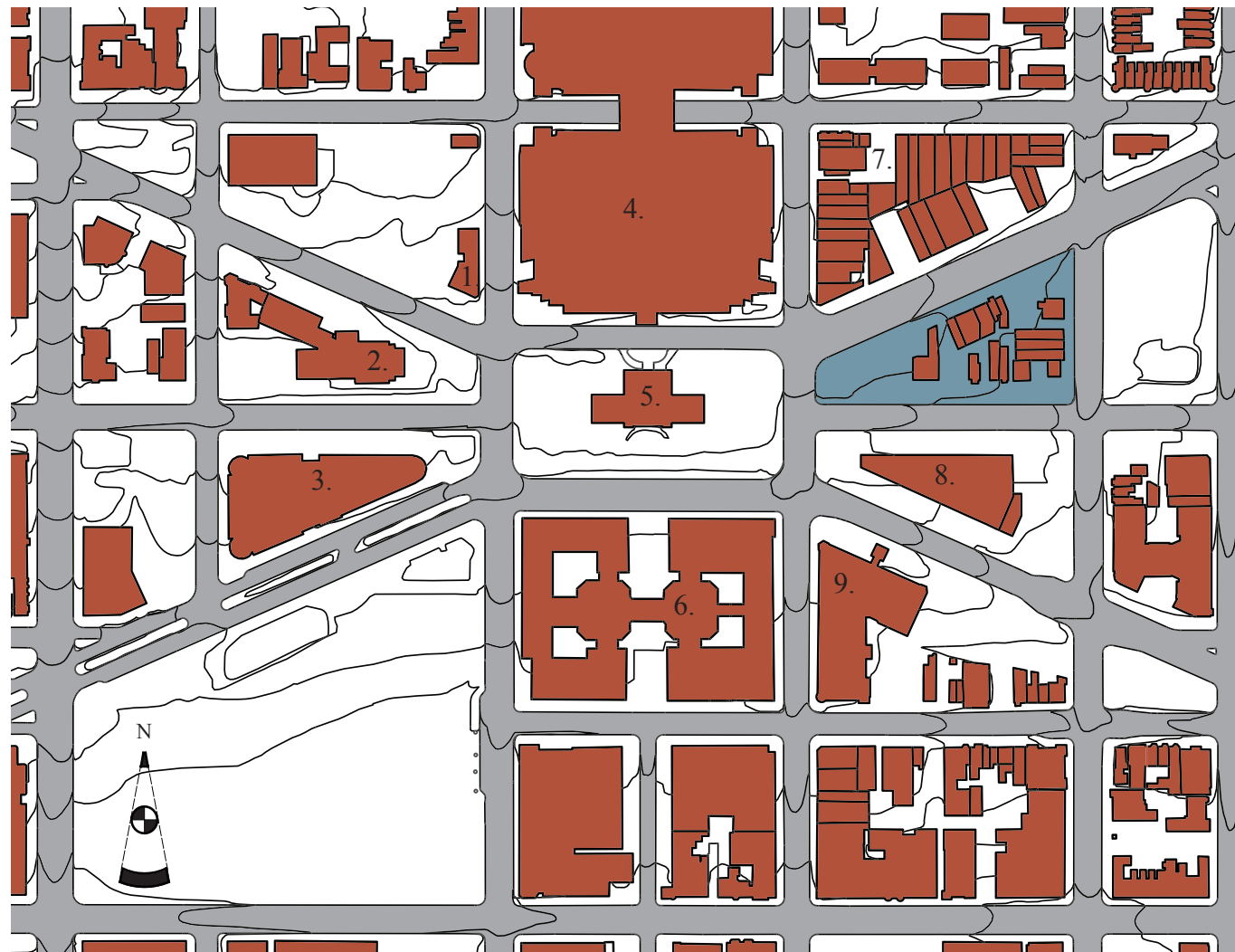
4. New DC Convention Center. Image by author.

By Author



7. 7th Street facade of the Old Shaw Neighborhood.

By Author



8. National Public Radio Headquarters

By Author



9. 650 MASS AVE. NW, MIXED USE

By Author



6. Tech World Plaza, which includes a Renaissance Hotel

By Author



5. Old Carnegie Library, Formerly the Central Library of DC, Currently the National Music Center, North facade

By Author



5. Old Carnegie Library, South facade.

By Author



## THE SELECTED SITE'S CURRENT STATE

The existing site is a collection of buildings that have been added over time. There are five row houses on the site. One is burned out and abandoned, two appear to be residences that are occupied, one is a bar or some sort of club, and the last is a hair salon that may have an apartment above it. Other buildings on the site include an auto body shop, a car detailer, a corner deli, and a number of unoccupied two-story retail spaces. The last building on the site is abandoned and appears to have been a warehouse or a mechanics shop. The rest of the site is a parking lot with a fenced off area with demolished buildings. The corner facing Mt. Vernon Square is a day parking lot with a billboard on it and a small attendant building.

The relative merit of the buildings on the site was assessed and after a great deal of analysis it is much better to remove all of the existing structures. This area at one time was a vibrant residential community much more like Capitol Hill around Lincoln Park. However urban renewal and gentrification in this area of the city over the past thirty years has made these buildings a misfit for this part of the city. The city has labeled the blocks north of New York Ave. as a historic district. This site could have been considered part of that but the fabric of the old neighborhood is now lost on this site. The site now needs to be occupied in a way that is consistent with the scale of the rest of Mt. Vernon Square.

The site is within an arts development district. Up and down 7th Street and along E street a renewal of theater and other special events has taken place. Restaurants, stores, condos, and new office spaces have culminated with this part of the city having a sense of urban renewal and life to it. The addition of a large performance complex in this part of the city is within the scope of what the city planners are trying to accomplish and draw to this part of the district. The infrastructure for this type of building is available because there is a Metro station two blocks north and a number of public parking lots around the area, including the old convention center site.



*Abandoned warehouse or mechanics shop on K street.  
By Author*



*Row house or converted apartment building along K Street.  
By Author*



*Converted row houses on K street. The left one appears to be a club or bar and the right is a beauty shop.  
By Author*



*Corner deli, burned out row house, and auto body shop on New York Ave.  
By Author*



*Auto body shop and a row house still used a single family residence along New York Ave.  
By Author*



*Billboard, side and back of the abandoned warehouse, and the side of the occupied row house on New York Ave.  
By Author*



*Auto detailing shop on K Street and 6th Street  
By Author*



*Two-story store fronts and offices along 6th Street.  
By Author*



*Two-story store front at the corner of 6th Street and New York Ave.  
By Author*

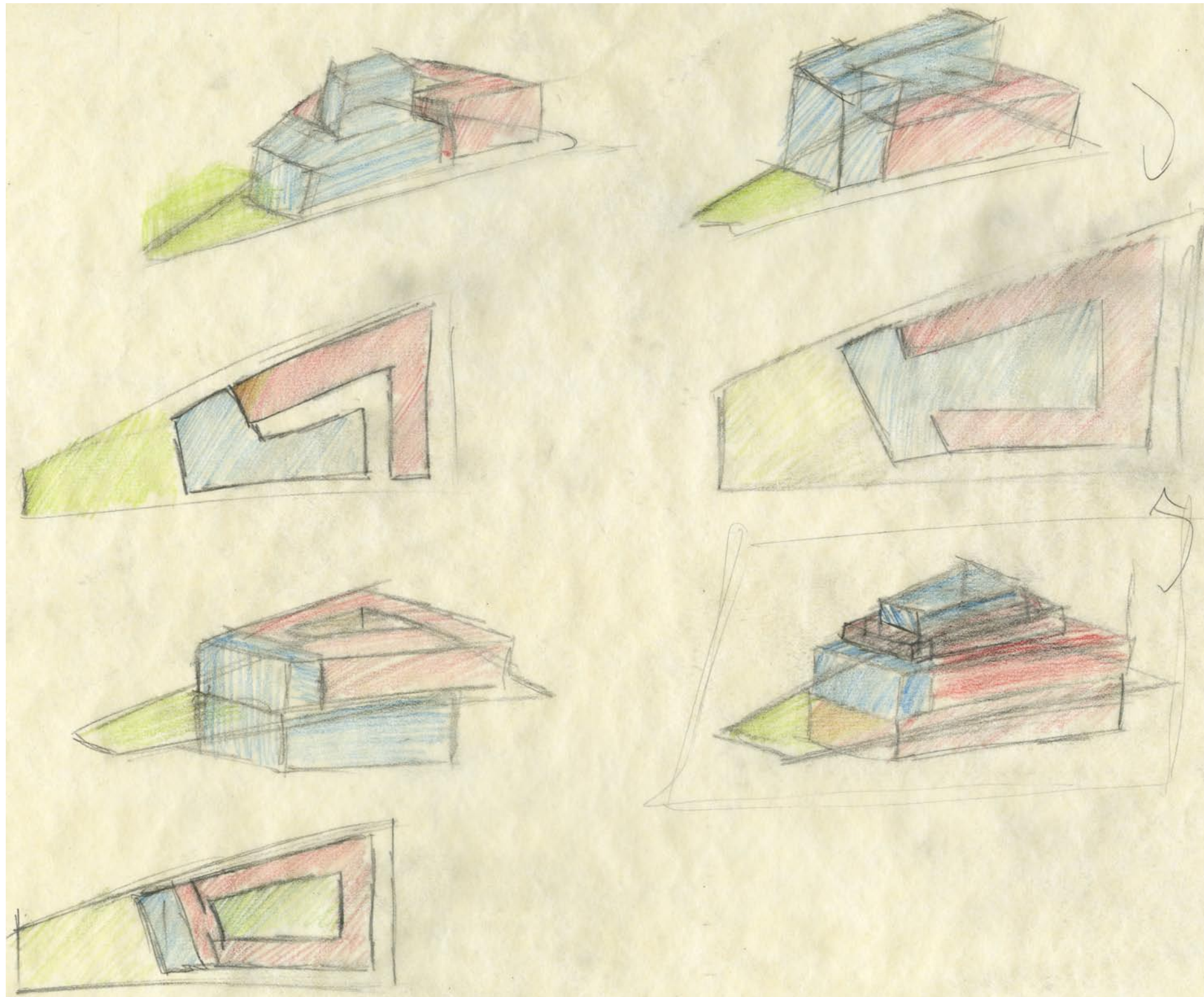
## EARLY THOUGHTS OF SITE AND PROGRAM

These sketches were early ideas about how the site could be occupied. The blue areas were for the stage and audience and the red areas were the production spaces. Conceptually my search focuses on the relationship of the audience and their spaces to the production realm and their spaces. These were such a literal series of thoughts that they pointed out what I needed to do rather than what form the building could take. The shape of the theater and the audience's space became obvious as a major component that needed to be nailed down and analyzed. Theater is a business and the business model for the building needed to be found and set.

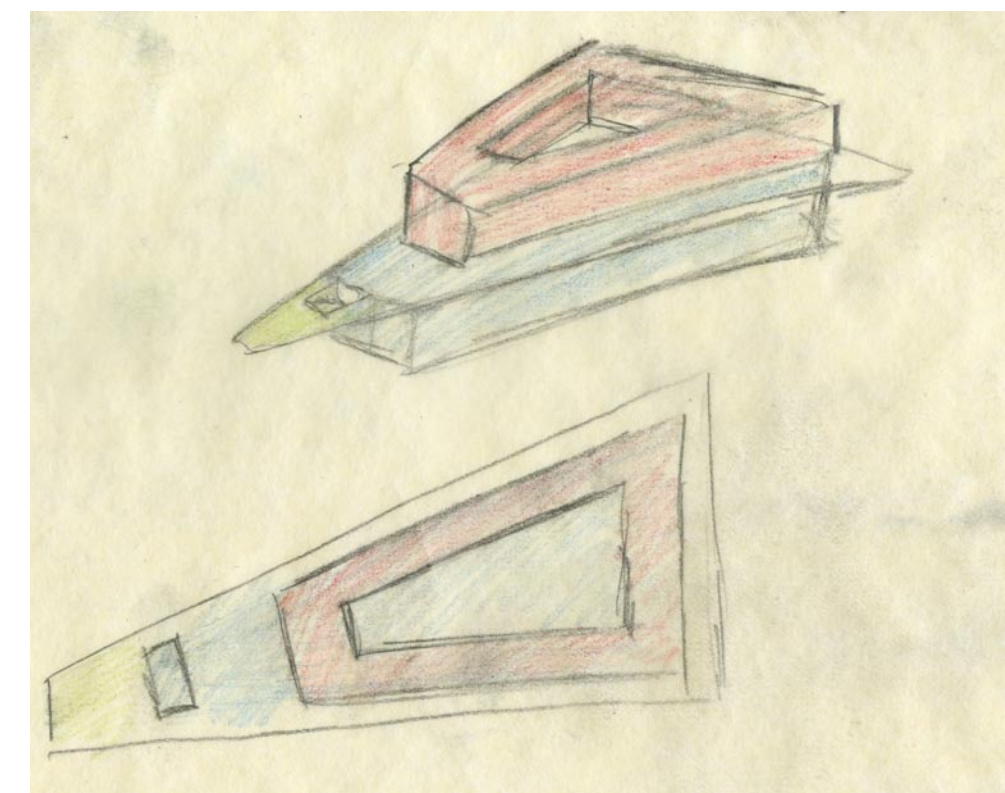
Theaters that self produce projects run shows for four to six weeks. During that time they are limited by the theater unions to nine performances a week. It takes around four hours to prep run and clean up from a show. At nine shows a week that is thirty-six hours of theatre occupancy a week for a performance during its run. Just to

produce the show it takes another four to six full weeks of work to rehearse, build, and set up what is needed in order to perform it. So the size of the audience needs to be large enough to make the theater viable to support itself. Many theatres rely on corporate, government, and private donations to afford to continue to operate. So the size of the audience and the stage becomes a large question because that will determine a great deal about how the theater will operate and occupy the building.

The size of the stage determines how large a set and how many lights will be needed for a performance in that space. So the architecture drives the budget of any given performance space. A stage and audience that is too large will require a great deal of extra equipment to help the audience see and hear. So the stage should be large enough to accommodate the size crowd the show needs to continue to perform but not be too large and become a drain on the theater's budget because of escalating operating costs. One method theater companies use to combat this is the use of multiple venues that vary in size and style. Arena Stage in South East DC has two performance spaces, one is the arena type they are well known for and the other is a proscenium style theater. By producing in both they can have a continuous flow of productions without large breaks between productions. Also different shows have different audience draws as well as production needs, by having a variety of spaces it allows the theatre to have a tool kit of methods to produce the best work possible. Because of the size of the site the program expanded into three major performance areas that could have overlapping performances allowing the building to have continuous use even if any given production space was between shows or events.



*These drawings do exemplify some early ideas of how the theater could be buried under the site or the stage could be built over the production spaces. Also some include some green space either inside the building or in front of it. One thought I had was since the corner of the site is a public park I would redesign it and expand it to make it a much better place than it is already. The building however, needs to step up to the front of the site so it is able to help the other buildings around it create a character for Mt. Vernon Square.*



## AUDIENCE STYLES: FAN SHAPE VS. GRAND SALLE

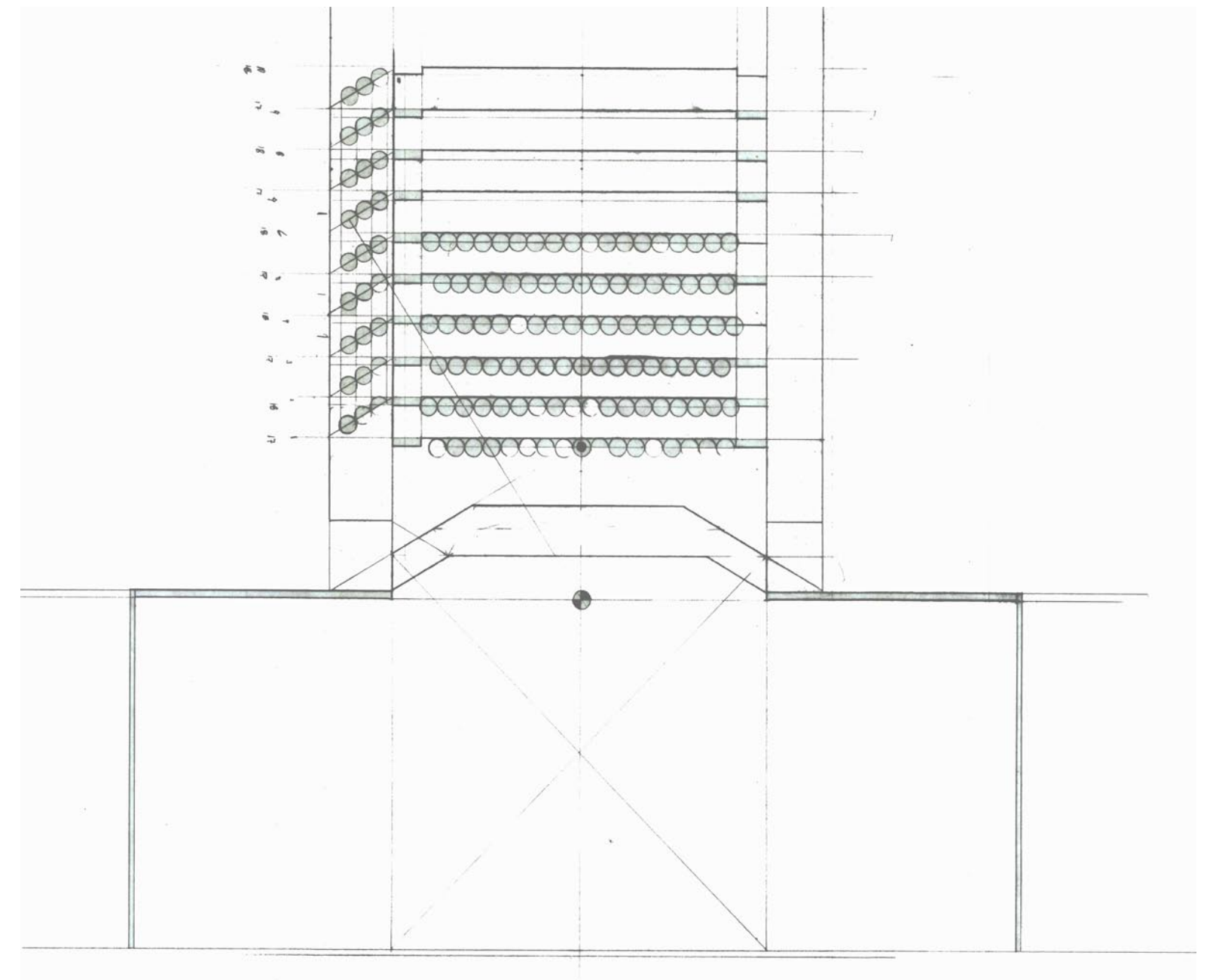
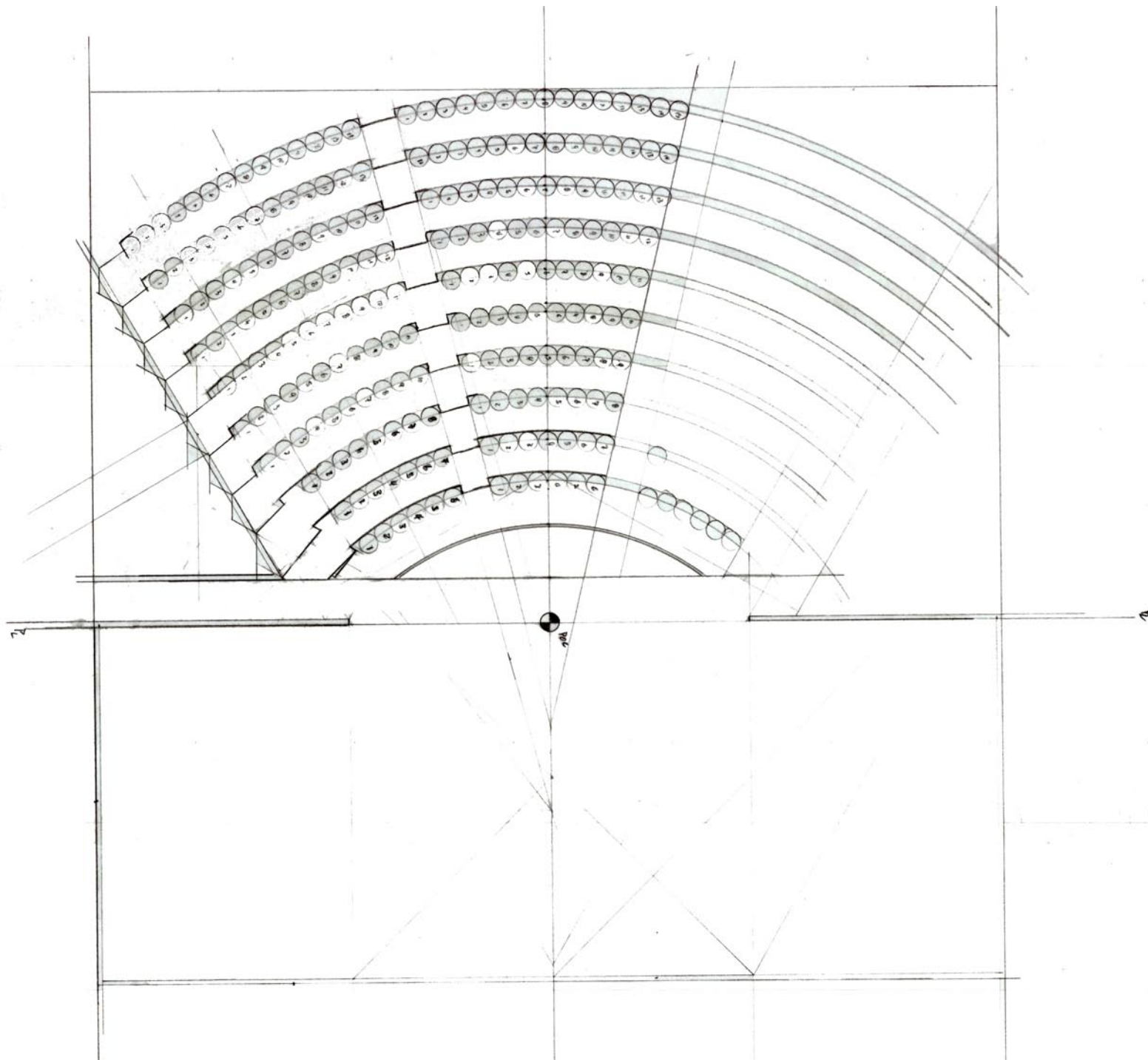
Arranged seating takes two forms in proscenium theaters. The arc or fan style of seating derives its form from the ancient Greek theaters as well as from a crowd's natural habit to form arcs or circles around an event. Izenour points out in *Theatre Design*, however, that a crowd forms a very organic shape rather than rigid concentric circles or arcs around the focal point. The regimented rows are a consequence of the rationalism of this natural event. The rectangular arrangement is much more linear in nature. The Grand Salle's of the European royal courts are the basis of these arrangements. The Grand Salle or the Great Salon was a large room within a royal palace that performances, dances and other activities were held. For theater and performance a selection of the court would sit in chairs on the floor and the actors would perform on one end of the room. Izenour as well as other archeologist and historians believe that the ancient Greeks and Romans had interior theaters in which they performed. Some of these are thought to be large square rooms that performances could take place. These indoor theaters were made of wood and have been lost over time; all of these theories are based on foundations and historical records talking about the activities that went on within these places.

During the plan development I needed to come to some decision on which of these two styles of seating would be most appropriate for my main performance area and the site. Basic considerations for these arrangements were that no single audience member could be more than sixty feet from the plaster-line center-line cross and that every audience member should see at least two-thirds of the stage at all times.

The arc method of arrangement has a large number of seats within the allowed area. However the disadvantage to this method is the majority of the seats are in the back half of the audience. Also the acoustics in these spaces tend to be bad because the walls offer little assistance in reinforcing the direct sound. These spaces usually need some means of sound reinforcement because of this. Sight lines for these types of arrangements are better than they are in the rectangular method. Studies have been done correlating seeing a speaker and hearing them. The weakness of the acoustics, while not able to be overcome by the sightlines, it certainly will require less reinforcement than if the sightlines and proximity of the audience were greater distance.

The rectangular method has a lot fewer seats because the sight lines become very difficult in a space like this. Acoustically the space is far superior to the arc method because the smaller space and the parallel walls allow sound to bounce very quickly within the space. This naturally reinforces the actor's voice. The audience distribution is equal for the entire space, as a consequence of the linear and parallel rows of seating. This allows a larger percentage of the audience to be closer to the stage.

The arc method was selected as the audience style. The number of seats seemed appropriate for the scale of the facility. The scale of the facility as well as the architectural experience the audience should have within the building made a strong case for the fan style. Sightline loss as well as the reduced number of audience members made the rectangular style less desirable for this building.



## BUILDING VOLUME SITE LAYOUT

The early stages of design had three components, a wall, an audience volume and a stage volume. The relationship of these three things was key to the development of the theater. Based on the audience size and arrangement study the volumetric sizes of the stage and the audience volumes were estimated. This model was made so the parts and pieces could be moved around or exchanged easily. During development of this part of the design different shaped volumes were added and removed as the thoughts about site were explored.

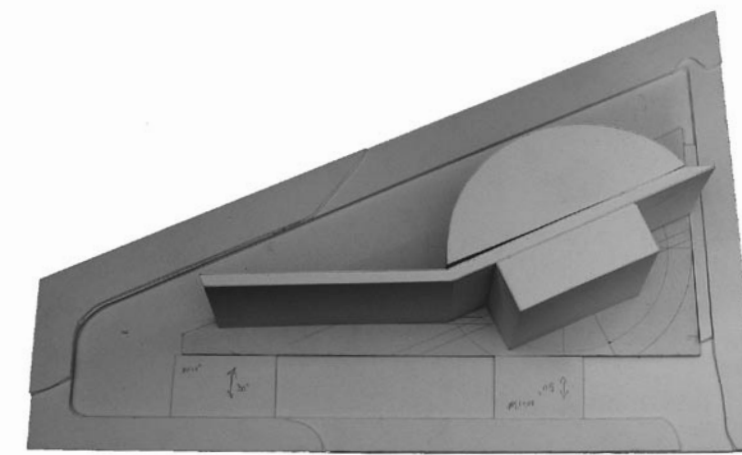
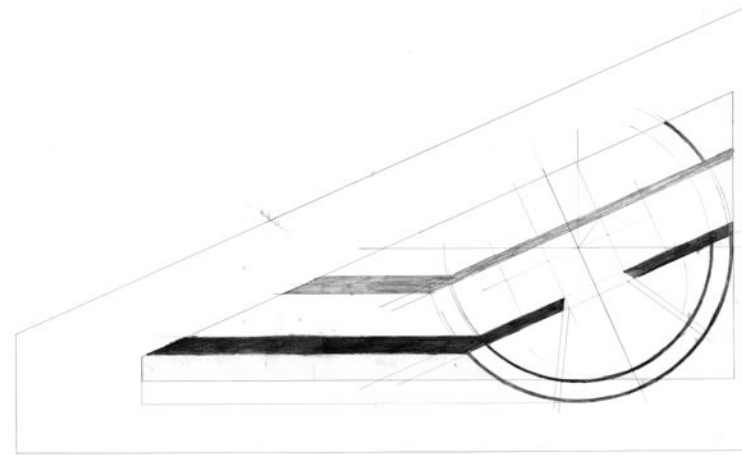
My early sketch models and drawings tended to use the historical model of a roman theater with its large square stage and a half circle for an audience. These sketch elements allowed me to choose the orientation of the major components. Setting up this relationship of audience to stage and city to building was key to the project. The following is the study in model and drawing from which I ultimately chose the orientation of the building.

The production spaces have different needs than the audience spaces. Production spaces tend to be squashed into the leftover space after the other spaces have been developed. It was important to me to think about the quality of all of these spaces with the same amount of consideration as the audience spaces. The production space usually needs to be equal to or much larger than the audience space. The staff will be occupying the building more than the audience, especially those spaces outside of the stage. It is important for these shop spaces to have as much natural light as possible.

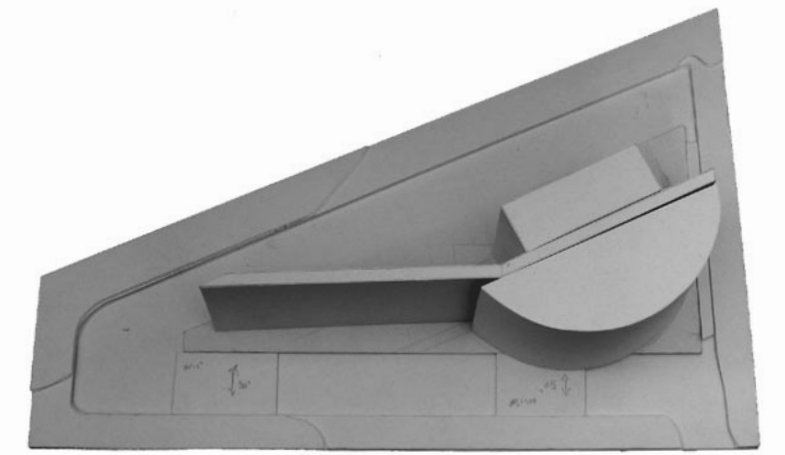
The audience needs a procession space that has continuity to the city and in this case Mt. Vernon Square. These spaces much more than the production spaces should be part of the city and allow the audience to view the city around them. Performances are usually held during the evening and some matinee during the day so the majority of the time the audience will be coming to the building it will be dark.



The easy solution was to attempt to face Mt. Vernon Square directly. The width of the auditorium volume determined how close to the front of the site the building could be. This pushed all of the production space into a small section of the site. The scheme makes the whole front of the site unusable and crushes the building program into a very small part of the site. The square toward the front of the site is a black box theatre which was introduced at this point as a way to make more use of the site. Conceptually the whole thing fell apart but it was the first real thoughts about the site and how the program could address its needs within the site.

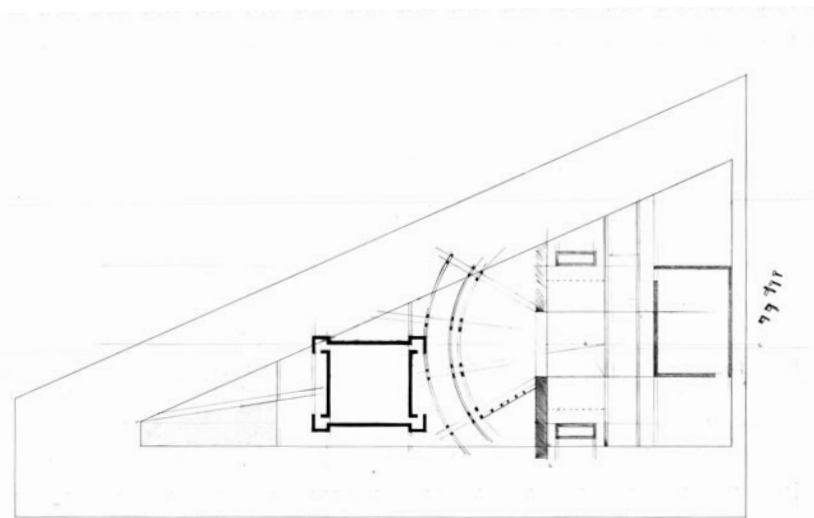


By Author



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The bent wall concept tried to address the fact that the site was triangular and certain sections of the building needed more or less space. The original drawing and model study, on left and right, tried to make use of placing the largest element the audience arc in the largest corner of the site and reserve the production space to the north side of the site. This concept leaves the audience trying to enter from the wrong side of the proscenium wall. The audience faces away from Mt Vernon Square and looks at the loading docks of the NPR building which is not the most aesthetic view from the site. This arrangement places all of the production spaces on the north side of the building. Production spaces need to be facing south in order to take advantage of the sun. The center scheme places the production on the south side of the building. By having the production space on the south side of the building it makes the loading spaces align with the NPR building across the street. The center concept is better but the bent wall hides the auditorium from Mt Vernon Square. This curved element needs to be seen from the convention center and the rest of Mt. Vernon Square. The curve is the result of what the interior volumes are holding and it is the result of the audiences half so it needs to be present to the square. The wall is set so far to the south of the building that almost no area is left for the production spaces on the site.



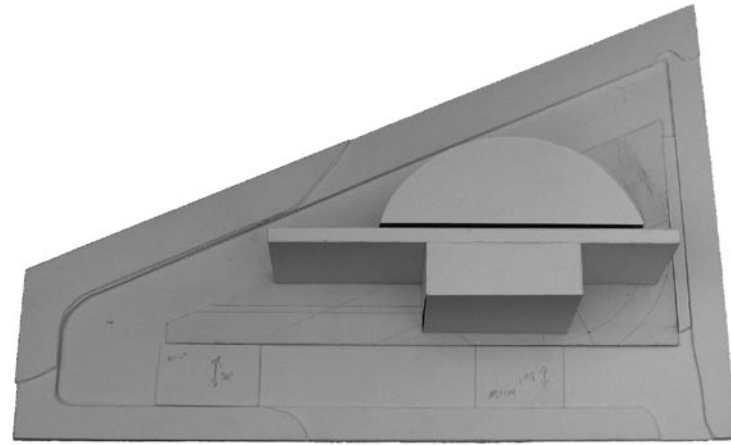
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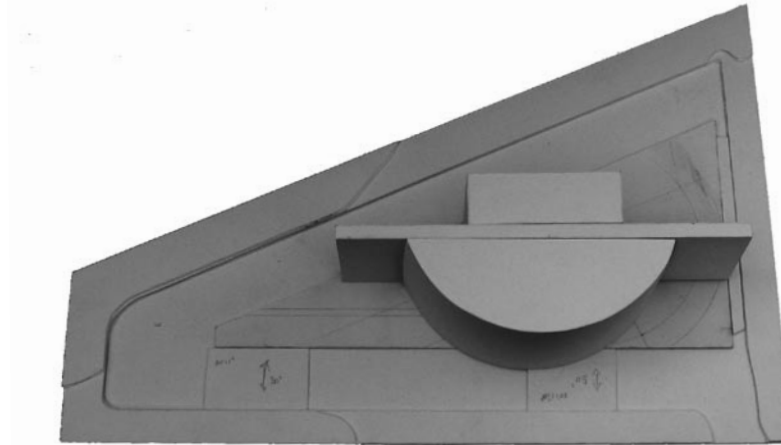
This arrangement places the proscenium wall parallel to Sixth Street. Again because of the width of the audience volume the stage and production spaces get smashed into the back of the site, for the left and center schemes. This arrangement leaves more space for the production than the bent wall does, however, it once again leaves a large part of the site unused and difficult to fill with meaningful spaces for the building program. The scheme to the far right leaves a great deal of space for the production; however, it turns the audience away from Mt. Vernon Square. By doing this, it denies the site's duty to Mt. Vernon Square and the city as a whole.

# BUILDING VOLUME SITE LAYOUT

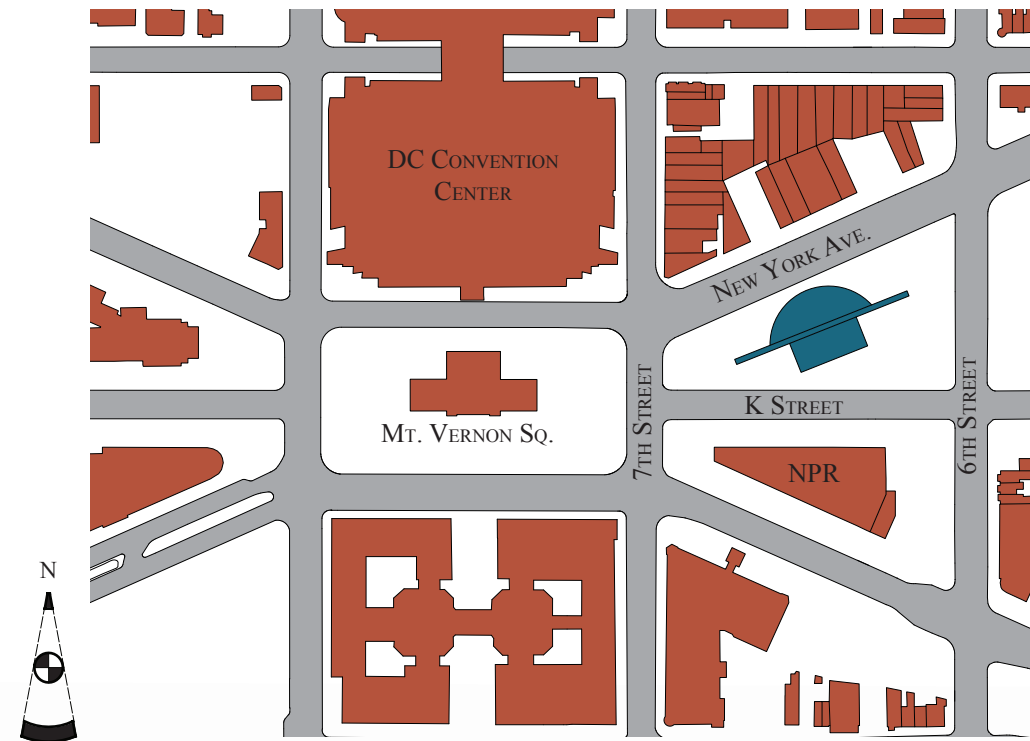


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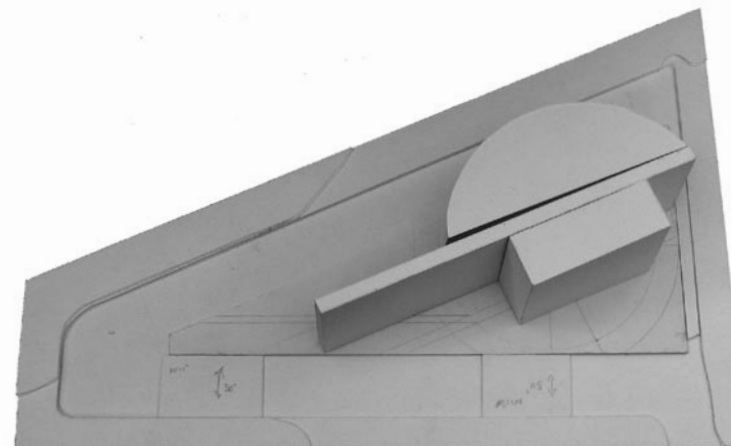
The arrangement of parts in a north south direction allows the production staff to have adequate working space on the south face of the building but the audience and entrance to the building is pushed away from Mt. Vernon Square. The other arrangement faces the NPR building and is once again hidden from Mt. Vernon Square. Also the production spaces are pushed into a much smaller space than they should have to work in. This arrangement really is taking direction from K Street. In much of the city it is a major artery but in this location New York Ave. is the major thoroughfare and the building should orient itself to that avenue instead of K Street.



By Author

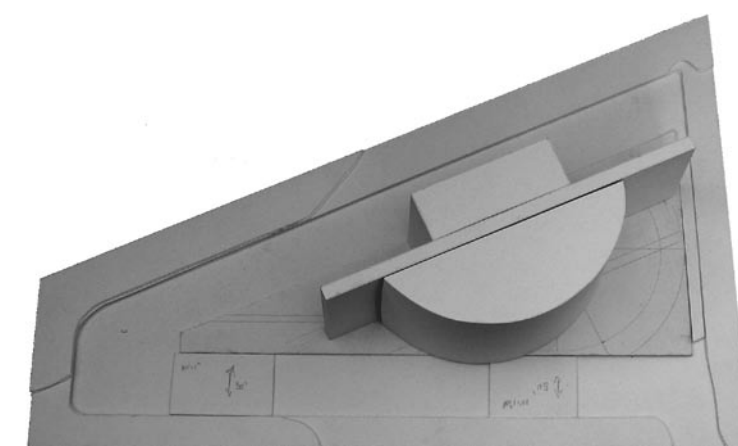


Site plan with final building volume scheme for reference.

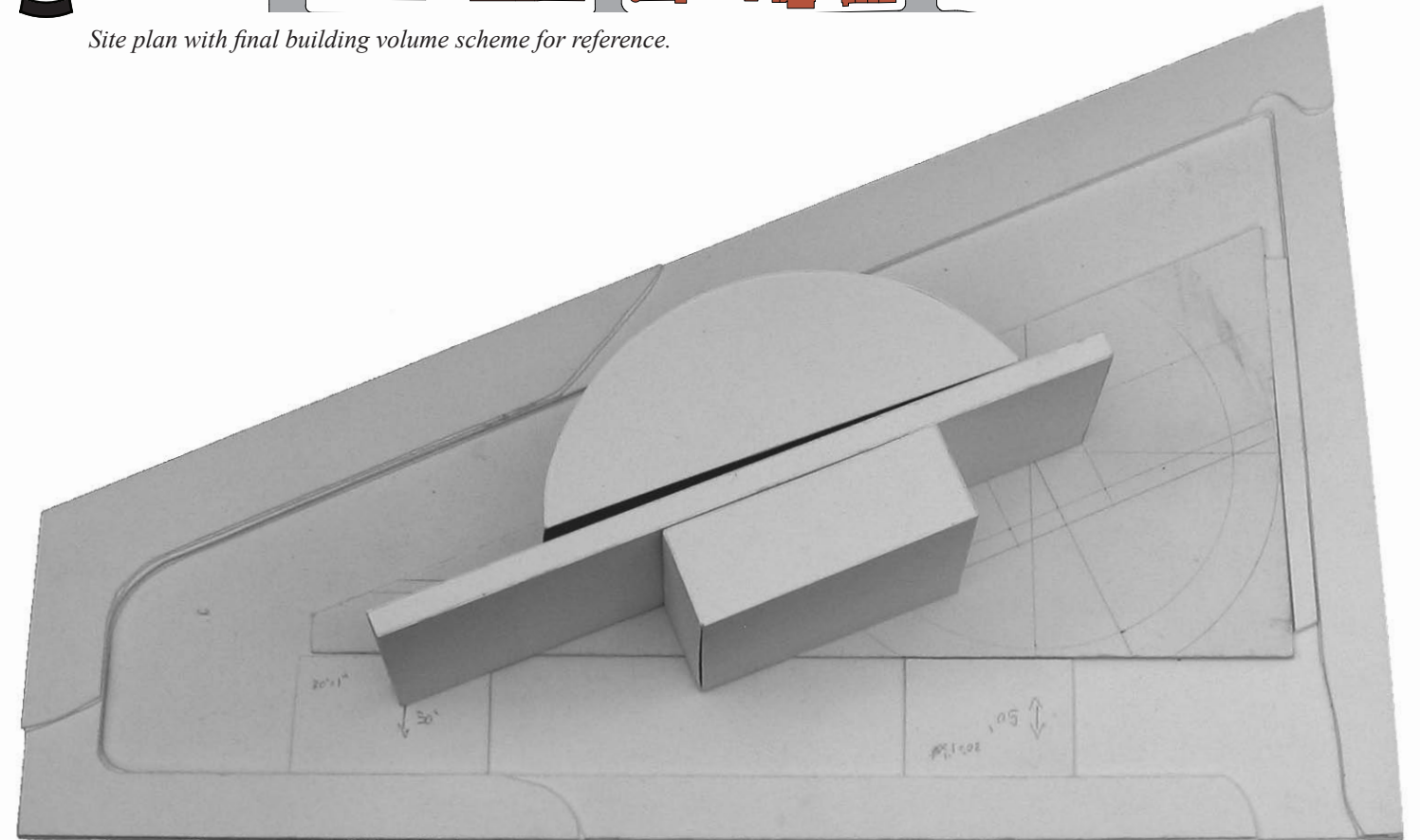


By Author

The alignment of the building with New York Ave. opens the audience to Mt. Vernon Square. It also places the shops and production spaces into a decent size portion of the site. These spaces are placed on the south of the building making the natural light and quality of the spaces much better for the production staff. The audience however is pushed way up to the north end of the site as far as it can be from Mt. Vernon Square. The center arrangement is along New York Ave. however, the production space gets spread out and is now on the north side of the building and the audience and the supposed front of the building is now facing away from Mt. Vernon Square.



By Author



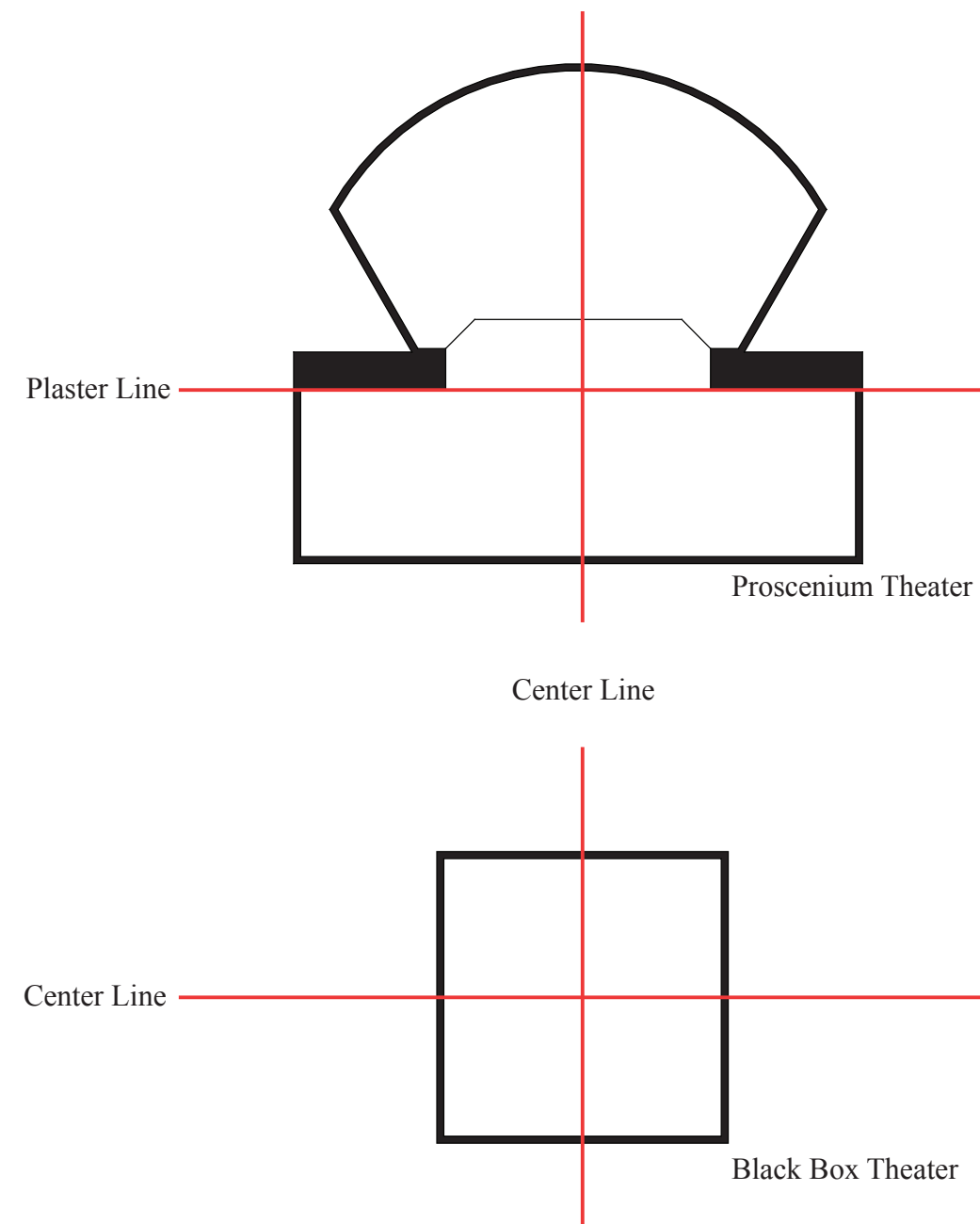
By Author

The final arrangement is a modification of the far left arrangement. The audience and the stage house have been slid closer to the square leaving a larger area for the production spaces. It has all of the needed parts of the site arrangement. The audience faces Mt. Vernon Square and the Production spaces are on the south side of the building facing the NPR building's loading spaces. K Street is a different space here than it is in other places in the city. It works more like an alleyway than it does as a major street. New York Ave. which is a major thoroughfare rightfully has the building aligning with it. The proscenium wall has been pushed forward leaving as much space as possible for the theater to occupy. The site setbacks became somewhat difficult during development and portions of them were ignored for the sake of this project. Both K Street and New York Ave. have a 50' setback from the street.

## PLASTER LINE AND CENTER LINE

For theater design, blocking, and stage direction two systems of orientation exist. One is derived from the structure of the proscenium stage and the other is used for all other types of stages. All stages have a center line which is the line that bisects the stage in half when looking from the audience. Some theaters like black box theaters there are two center lines perpendicular to each other that create the Cartesian ordinate for all special references. This is needed because in black box theaters the audience can change arrangement for every production. For proscenium stages the second line that creates the ordinate is the plaster line. This line is on the upstage side of the proscenium wall. In most if not all stages the plaster work or gypsum board runs along the interior of the audience and wraps around the proscenium wall until it stops before it turns into the stage house. The place it stops is the plaster line which is the line that the plaster starts and ends. This point in either theater because this location is what all measurements are taken from and checked against. This system guarantees that the set designers vision is always centered and the proper depth without relying on measuring from a side or back wall.

The plaster line is of interest because it is along this line that architecture and theatre meet. The plaster line is the “fourth wall.” This imaginary wall or picture frame is what the audience looks through while watching the play. “Breaking the fourth wall,” addressing the audience directly, is a reference to the architectural condition the theater and its spatial relationship with the audience. The plaster line takes on special meaning for this project because this line is extended through the building setting up the relationship between the audience and the production spaces. This structure of theater convention derived from the buildings architecture is then used as a generating form for the architecture of the building. It is the juxtaposition of this idea and the consequences of it that really drove the project for a long time. All of the project’s decisions were measured against this as a means of determining how an idea could serve the project as a whole.



Model of final design. Section along the main proscenium theater's center line.  
By Author

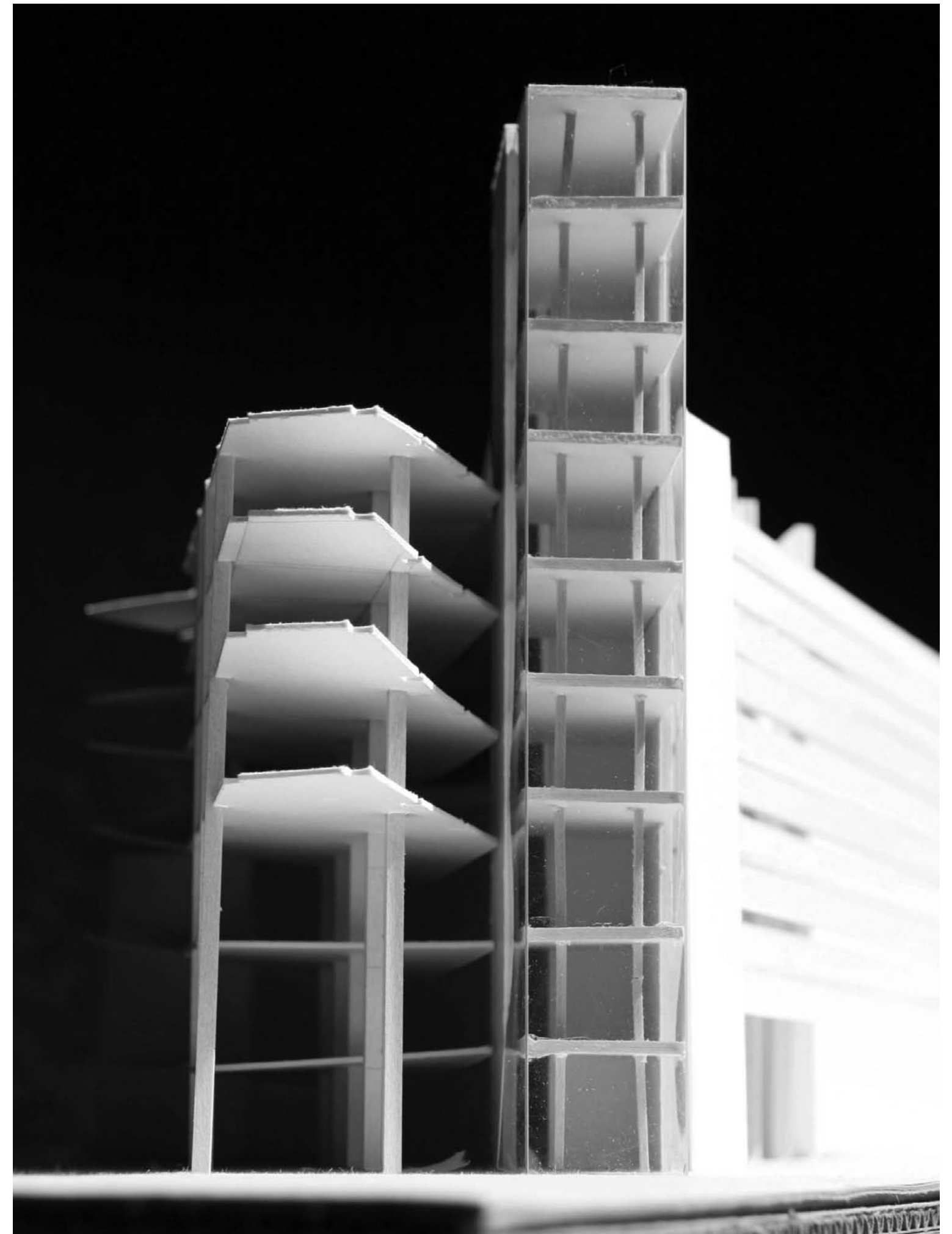
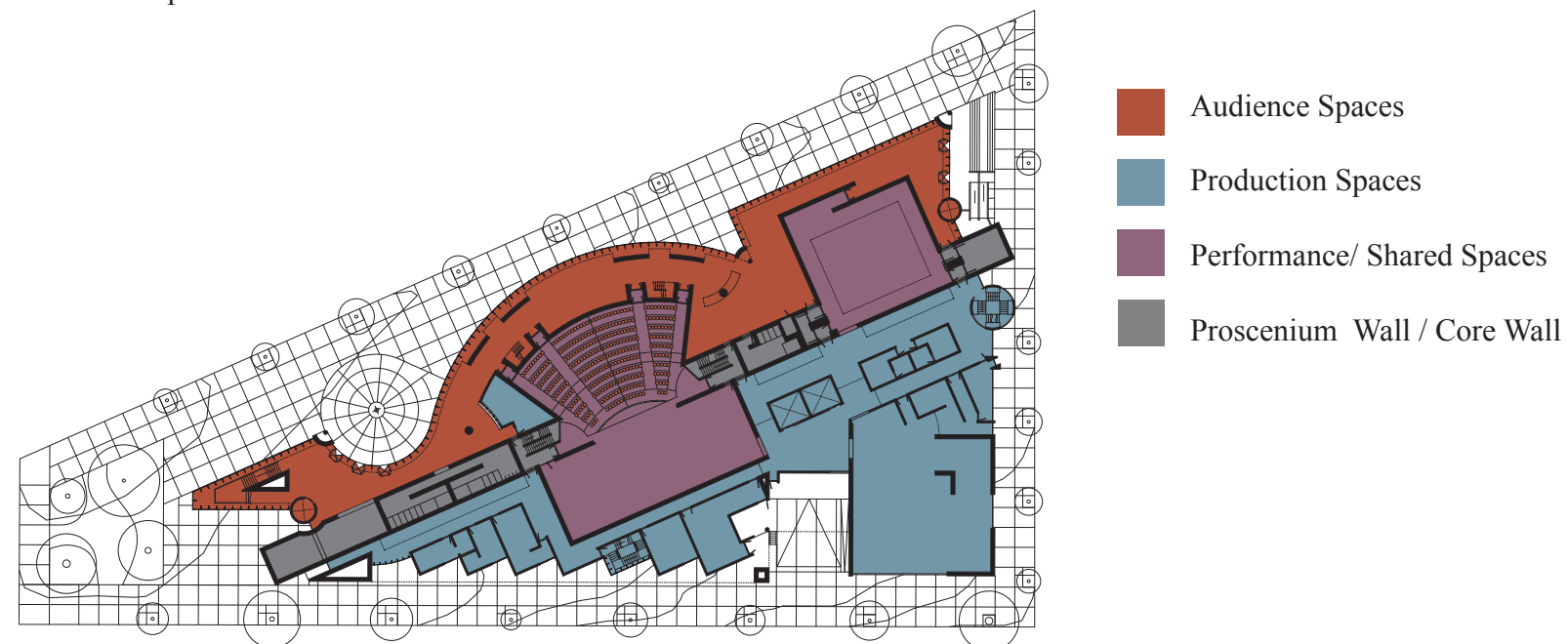
## AUDIENCE AND PRODUCTION

Performance is about the spatial relationship between a performer and the audience. The structure of a performance space affects this relationship and in turn the performances within it. Different types of performances work better in one type of space rather than in another. This building has been broken up into three major components, Audience spaces, production spaces, and performance spaces. The audience spaces are divided from the production spaces by the proscenium wall. This wall peels back or enlarges in two places within the building, allowing the audience and the performers to share space, experience and energy.

The relationship between the audience and the performers is the prime concern in any performance space. This building has three performance spaces. One is a traditional proscenium picture frame theater. This type of theater works well for scenographic style productions. Many of these types of stages are used for concerts and operas. Operas work fairly well because of the scenery and lighting needs of these productions as well as the need for an orchestra. Proscenium stages traditionally have orchestras because of their architectural lineage. The audience layout in this theater is fan shaped pushing the majority of the audience away from the front of the stage. However, because the depth of the audience is shallow the audience's relationship to the stage does not suffer. The other two performance spaces within the building are black box theaters. These two story rooms are stacked within a bulge of the proscenium wall on the east side of the building. The wall folds out creating space for these rooms as well as the entrances into them. The black boxes are much smaller than the proscenium theater but they provide an opportunity for more intimate and experimental productions.

The proscenium wall itself is a core of utilities and crossing areas. There are stairs, bathrooms, ticket booths and other electrical, mechanical, and plumbing spaces within it. It acts as the spine for the rest of the building and allows the other spaces to celebrate other architectural conditions as needed. There are a couple of spaces within the proscenium wall that are exceptionally beautiful. On the west side of the building on the 6th floor is the green room. This space is where the actors, crew, production staff and any special guests can come to relax and hang out. This space has an excellent view along New York Ave. over the old Carnegie library. It is a slit in the side of this massive proscenium wall with glass on three sides giving unprecedented views of the surrounding buildings. The glass extends from floor to ceiling allowing an unobstructed view of Mt. Vernon Square.

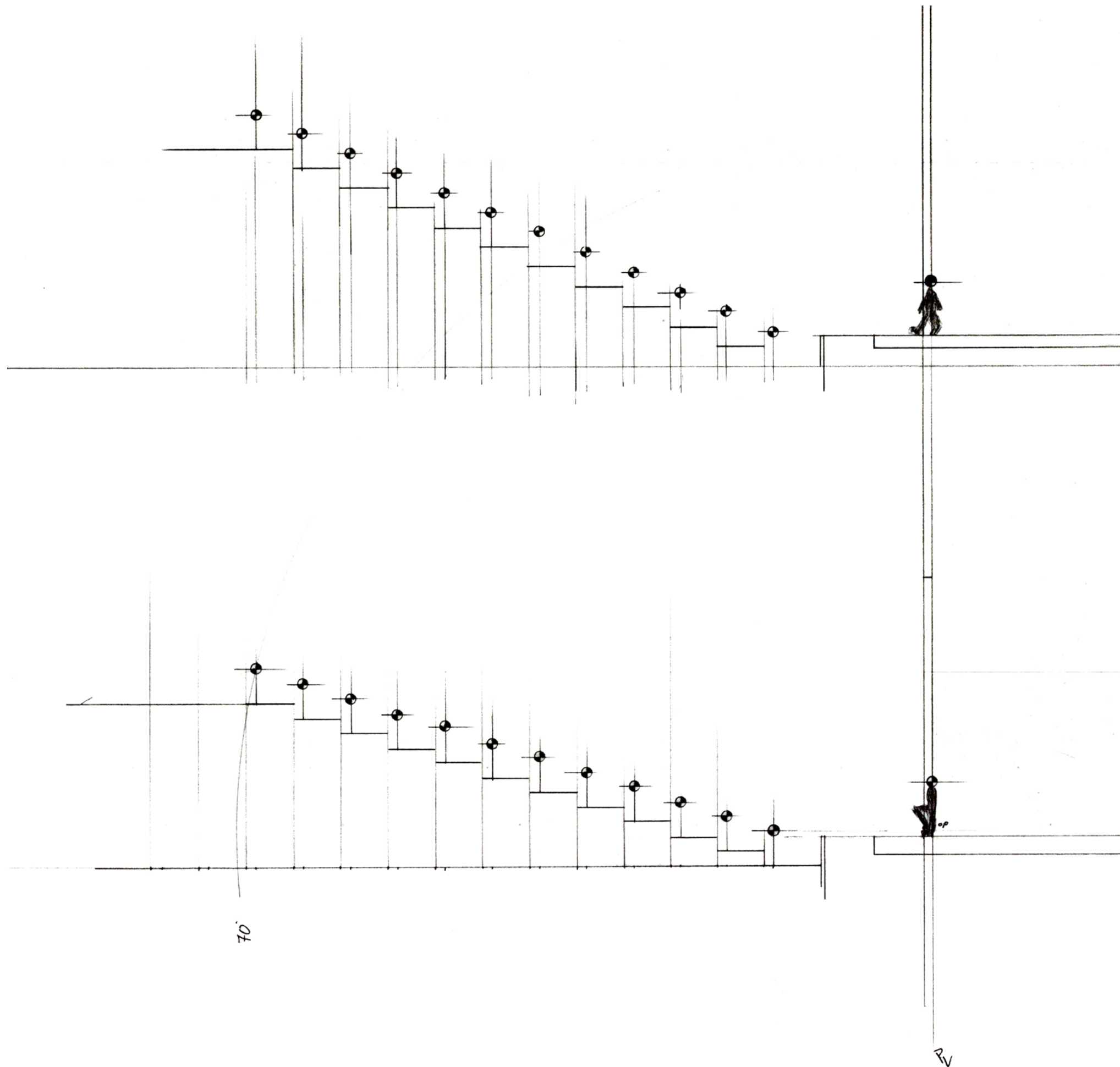
The production space needs to allow natural light within the building but at the same time screen the occupants from the city so their craft can be revealed on the stage rather than to the street. The scrim wall provides cover to the dressing rooms and the offices. The shops volume is screened by using fritted or screen printed glass. A relatively light dot pattern will help diffuse the light within these spaces. Some of the glass on the upper floors and the top levels of the scene shop could be clear allowing another quality of light within the space. Each floor has a large balcony above the loading dock. This balcony is close enough to all of the major working areas that the staff will never have to go far to get a breath of fresh air and some sunlight before continuing to work. Theater professionals are well known for the number of people who smoke. These porches provide space and opportunity for this activity without having to change floors or go far from their work spaces.



*Working model, view of western entrance, proscenium wall, and screen structure.*

*By Author*

## SECTION DENSITY



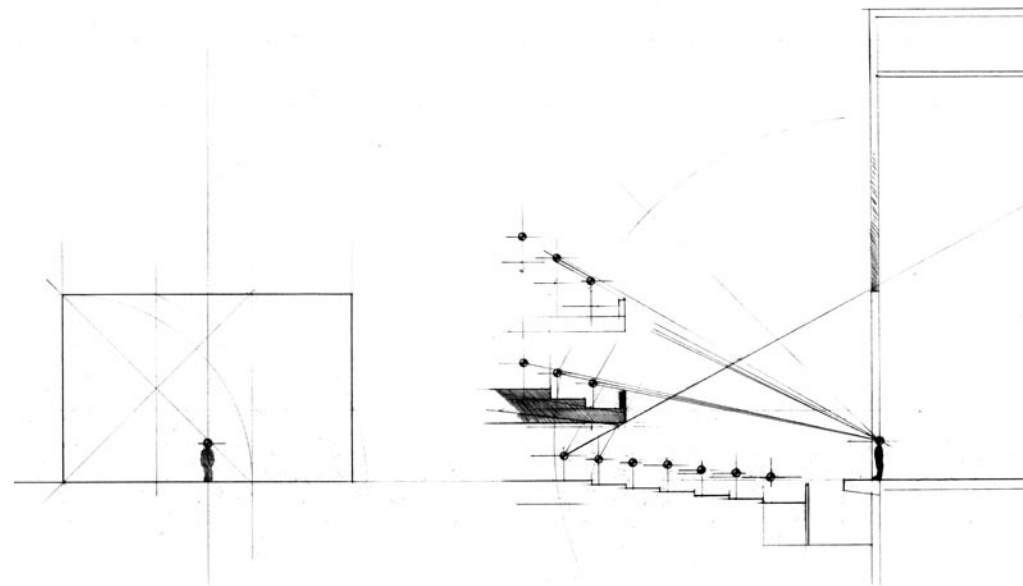
These drawings were an epiphany for me. The concept I was trying to explore through this study was a means to increase the number of seats in the theater through section. By changing the row to row height, I had hoped to increase the number of seats within the audience. What I realized was that the row to row depth is fixed through the code. Some variations are allowed, but because it responds to the need of the human form and the safety of crowds in emergency, the density in section is near impossible to change. By restricting the depth of the audience to sixty feet, the only way to increase the number of seats in the theater beyond what can be arranged on a single level, is to add balconies.



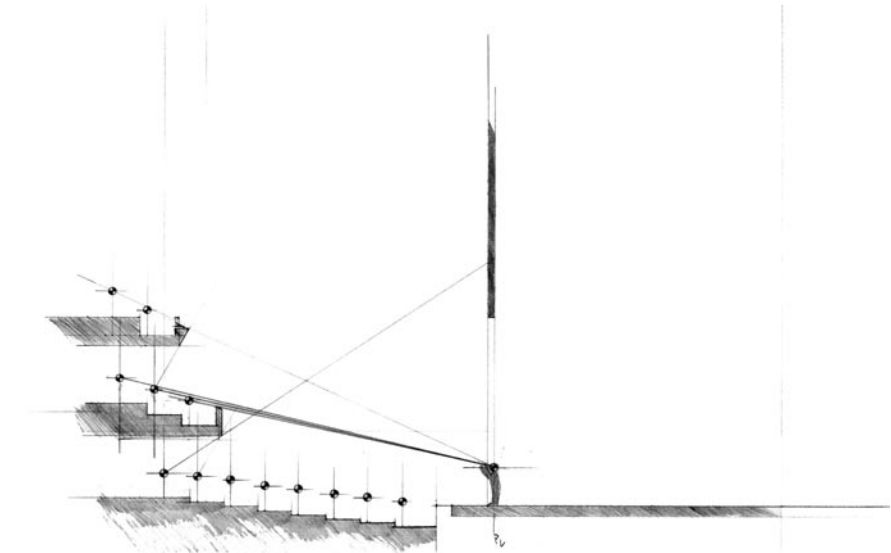
## SECTION STUDIES

Balconies are considered a great asset and a liability in theaters. The theater during the renaissance and baroque periods was a place to see and be seen. From a balcony the audience can get a better view of the stage and can be seen by the audience. Many late renaissance and baroque theatres had seating that folded in on itself in order for the patrons to look at each other. The physical balcony structure extends over part of the audience. Shallow balconies allow those beneath them to see and hear well, by adding surfaces for sound to reflect off of. In many cases this makes the theatre better than if the balconies were missing. A very deep balcony creates a shadow for light and sound making it difficult for those people beneath it to hear and see. If the audience's viewing angle is too high the stage appears flat and the top of the actor's head is more prevalent than the face. The general rule is to never have audience members viewing the actors from higher than thirty degrees above the actor's head. In theater the most important thing is to see the face of the actor. If the audience can't see their face it is very hard to hear the actor because they are not pointing their voice toward that part of the audience. For the actor to do this it can affect their performance because of the unnatural way they would have to hold their head.

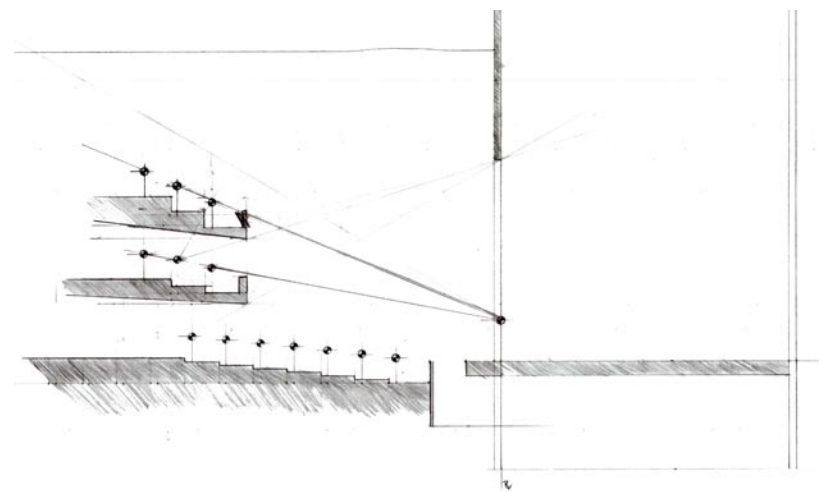
This group of section studies is a search for the optimum density of audience and their arrangement to the stage.



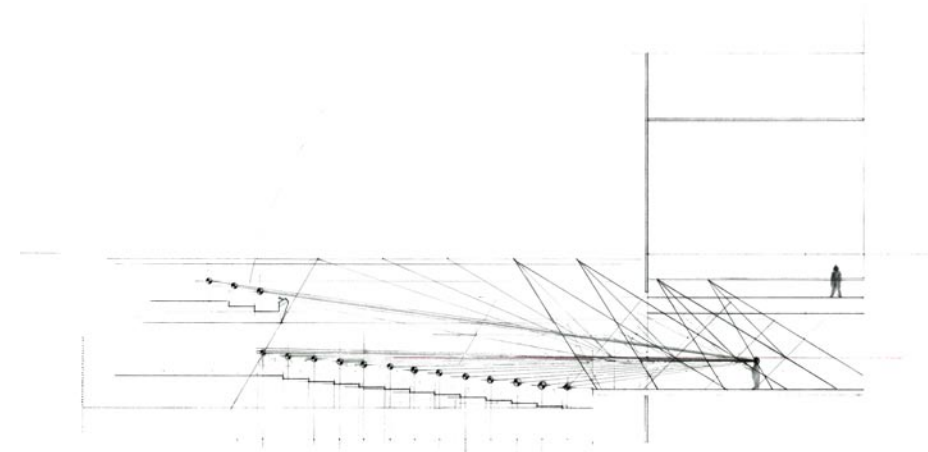
*This design has a good density of people and the balconies are further apart negating some of the acoustical shadow. The upper balcony is problematic because the audience is almost looking down on the stage. Also the row to row heights on this balcony are so great that it is near impossible to meet code.*



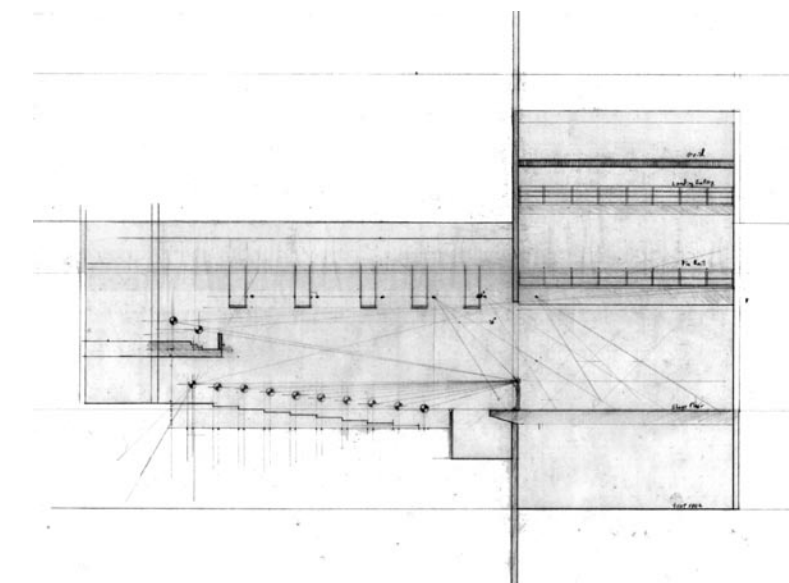
*The back row of the low balcony has a horrible acoustic shadow and sightlines. The top balcony is so high that the viewing angle looks more on top of the stage than at it so the views from here are undesirable.*



*The balconies are very deep, so they restrict the view of the rows toward the back of the audience. If the balconies are too deep they restrict the views of the stage as well as creating an acoustical shadow under them. So it will be difficult to see and hear the stage from these rows.*



*This long balcony design has decent views of the stage and it does not provide a large acoustical shadow. It possibly would provide greater acoustical experience because it would allow for a greater number of reflections to reach the center of the audience. Unfortunately the longer run of the audience puts a larger number of people a great distance from the stage making it more difficult to see.*



*The proportions of this section are good. Each audience member can see the entire stage and proscenium. The catwalks are a reasonable distance and height from the stage for the lights to cover the stage adequately. The stage depth and height provide the productions with enough space to perform and store scenery for the productions. However, there are not enough people within the audience to meet the building needs. So an additional balcony will be required.*

## PLAN DEVELOPMENT

This was the first plan I drew. I had spent many months while working on this project drawing plans and sections of components of this building but I had never drawn a single plan that started to explore my larger ideas about site, orientation, geometry, and space. The forms of the components are derived from the origins of these types of elements and arranged to be a cohesive building. This version was less than cohesive or coherent but it is the true beginning of my exploration of this project, and my own understanding of what makes a theatre.

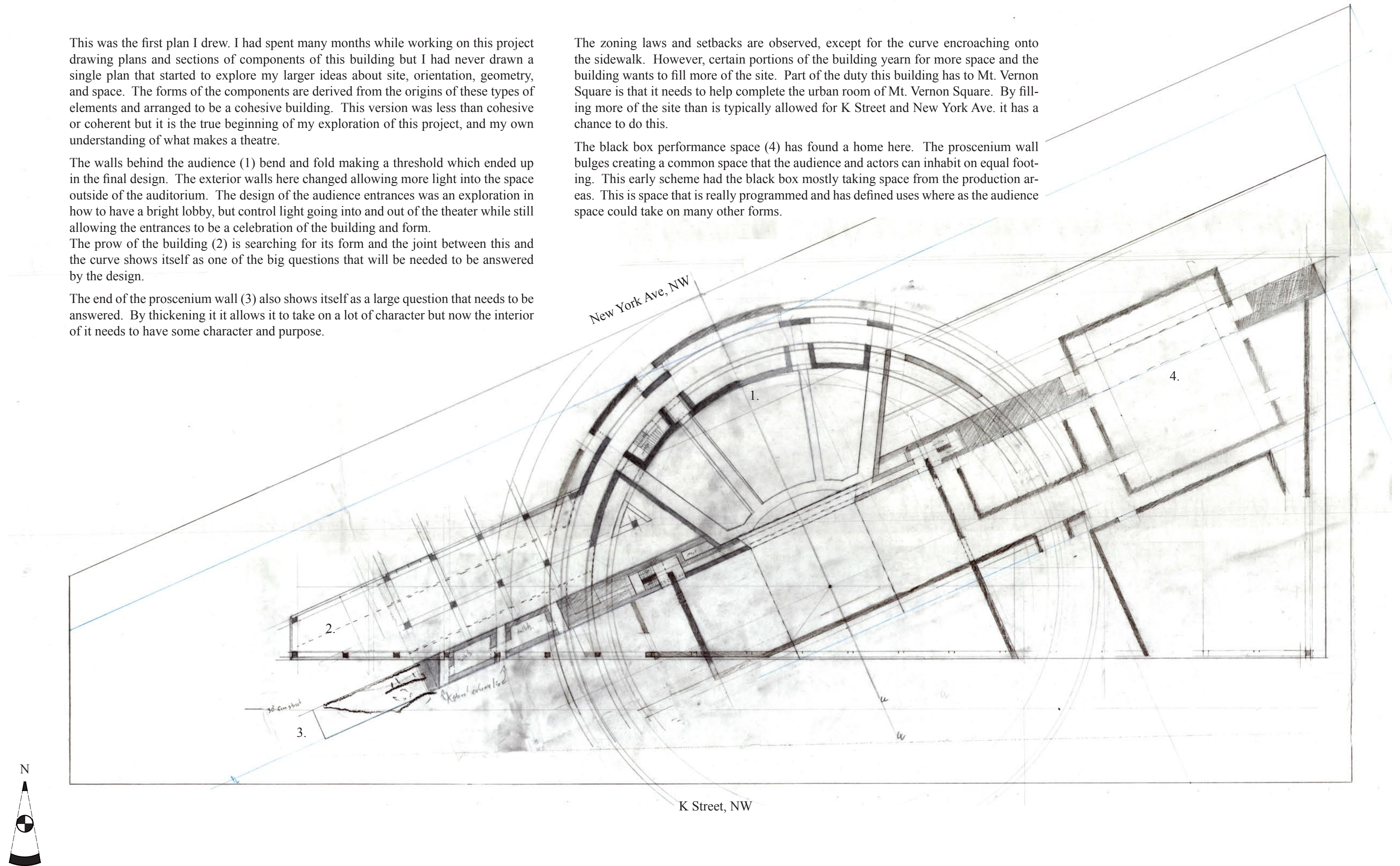
The walls behind the audience (1) bend and fold making a threshold which ended up in the final design. The exterior walls here changed allowing more light into the space outside of the auditorium. The design of the audience entrances was an exploration in how to have a bright lobby, but control light going into and out of the theater while still allowing the entrances to be a celebration of the building and form.

The prow of the building (2) is searching for its form and the joint between this and the curve shows itself as one of the big questions that will be needed to be answered by the design.

The end of the proscenium wall (3) also shows itself as a large question that needs to be answered. By thickening it it allows it to take on a lot of character but now the interior of it needs to have some character and purpose.

The zoning laws and setbacks are observed, except for the curve encroaching onto the sidewalk. However, certain portions of the building yearn for more space and the building wants to fill more of the site. Part of the duty this building has to Mt. Vernon Square is that it needs to help complete the urban room of Mt. Vernon Square. By filling more of the site than is typically allowed for K Street and New York Ave. it has a chance to do this.

The black box performance space (4) has found a home here. The proscenium wall bulges creating a common space that the audience and actors can inhabit on equal footing. This early scheme had the black box mostly taking space from the production areas. This is space that is really programmed and has defined uses where as the audience space could take on many other forms.



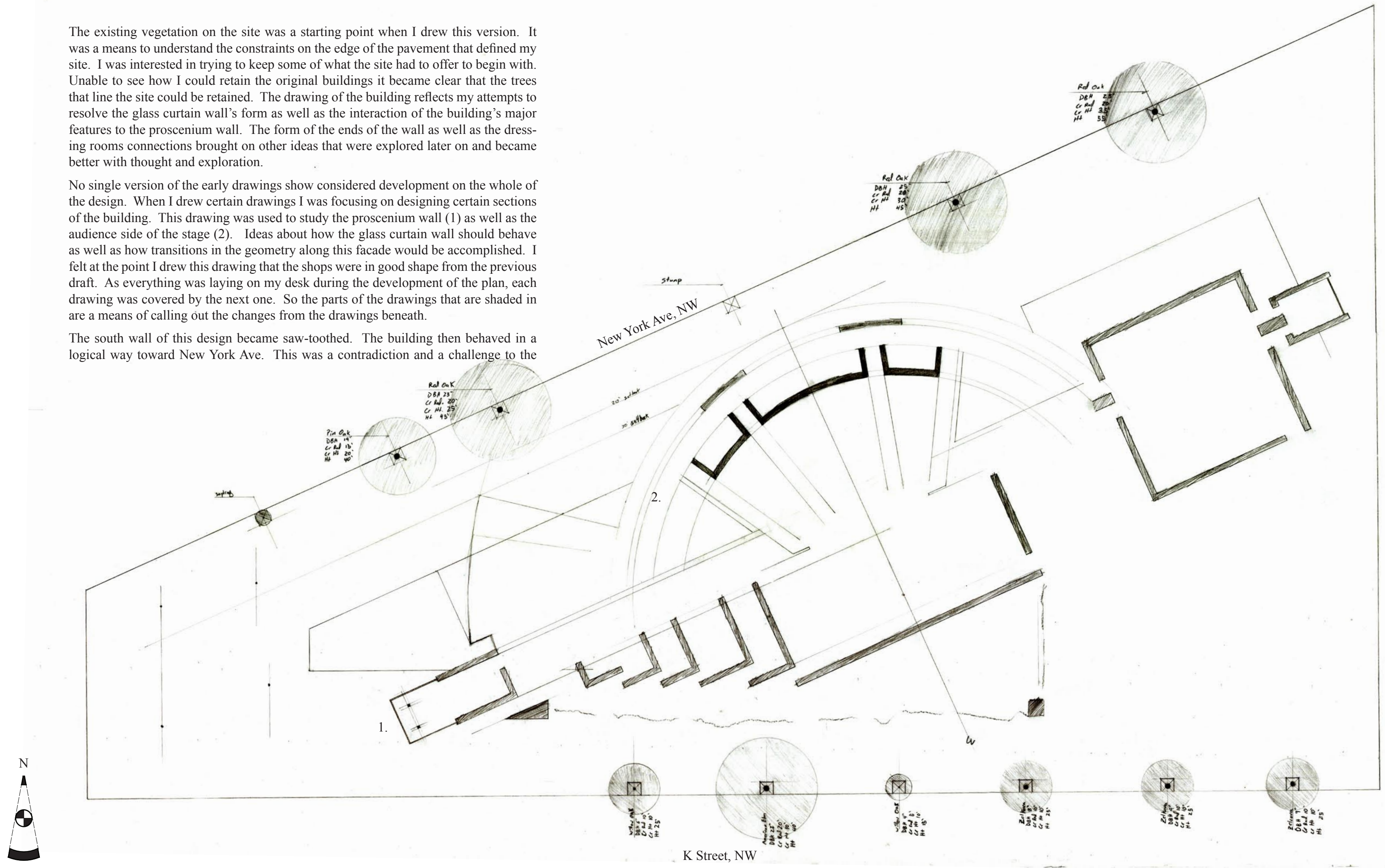
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PLAN DEVELOPMENT

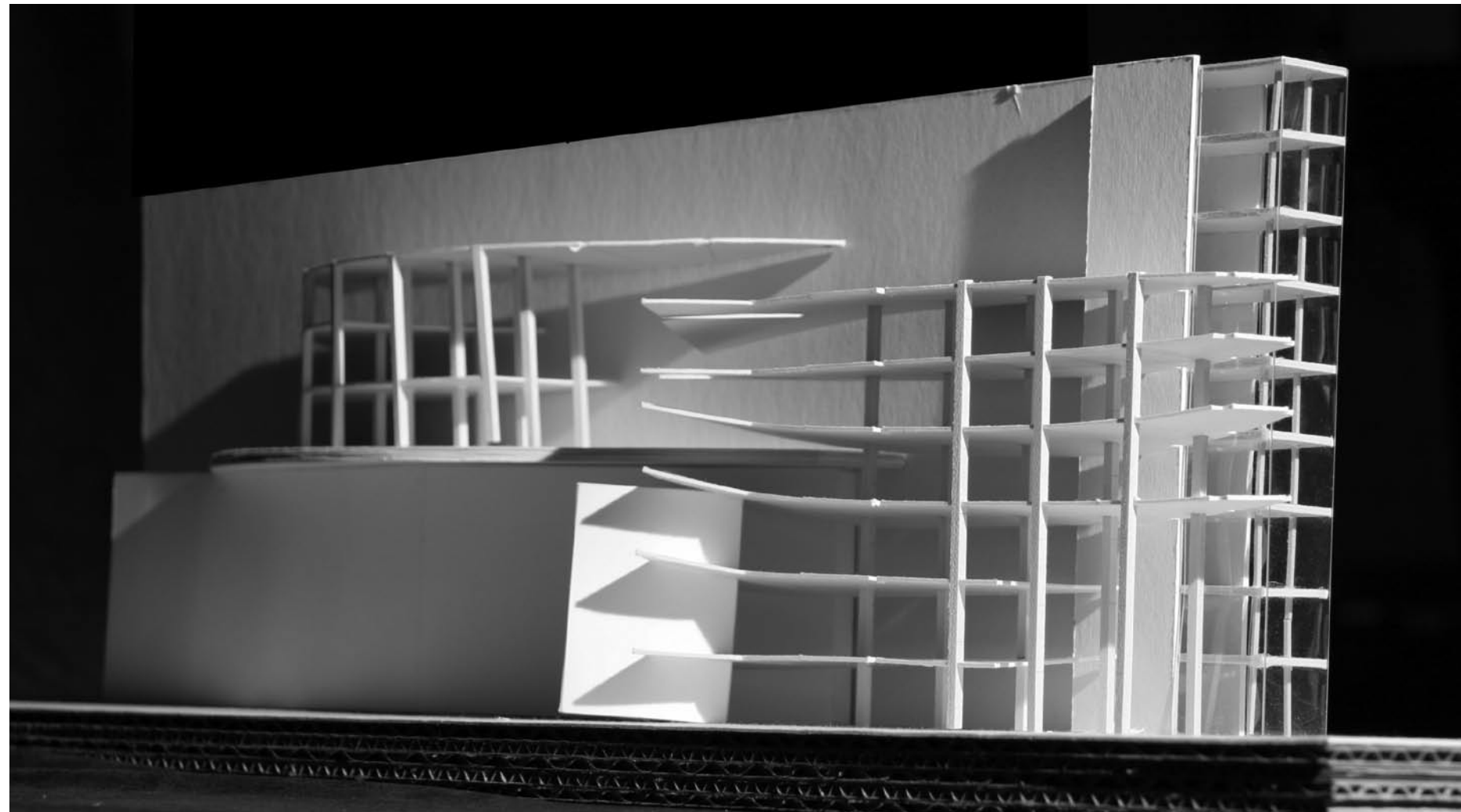
The existing vegetation on the site was a starting point when I drew this version. It was a means to understand the constraints on the edge of the pavement that defined my site. I was interested in trying to keep some of what the site had to offer to begin with. Unable to see how I could retain the original buildings it became clear that the trees that line the site could be retained. The drawing of the building reflects my attempts to resolve the glass curtain wall's form as well as the interaction of the building's major features to the proscenium wall. The form of the ends of the wall as well as the dressing rooms connections brought on other ideas that were explored later on and became better with thought and exploration.

No single version of the early drawings show considered development on the whole of the design. When I drew certain drawings I was focusing on designing certain sections of the building. This drawing was used to study the proscenium wall (1) as well as the audience side of the stage (2). Ideas about how the glass curtain wall should behave as well as how transitions in the geometry along this facade would be accomplished. I felt at the point I drew this drawing that the shops were in good shape from the previous draft. As everything was laying on my desk during the development of the plan, each drawing was covered by the next one. So the parts of the drawings that are shaded in are a means of calling out the changes from the drawings beneath.

The south wall of this design became saw-toothed. The building then behaved in a logical way toward New York Ave. This was a contradiction and a challenge to the



Scale: 1/32" = 1'-0"



By Author

NPR Building across K Street. This building takes the allowed footprint by code and extrudes it vertically for 7 or 8 stories. So the facade of the building is very flat. These toothed walls created an implied face but the direct face was not flat. To help create a frame in which Mt. Vernon Square could be seen through a complementary line to that of the NPR building needed to be found. These saw-toothed rooms were the dressing rooms and to enter them a hallway would be needed to move from one to the next. So on each end of the hall were two huge columns. One is square and the other is a triangle which responds to the site. Between them was a massive two hundred foot long twelve foot high beam. This held the floor between the dressing rooms and the outside of the building. Between each beam was a two foot high two hundred foot long window. This continuous ribbon window would allow the actors and staff to look out upon the city while they were getting ready but protect them from the city seeing them prior to when they were to be on stage. The ground level had no hallway and the area beneath the hall became part of the street and sidewalk. These areas could take on a life of their own as places of refuge as well as places to congregate before and after the show for the public.

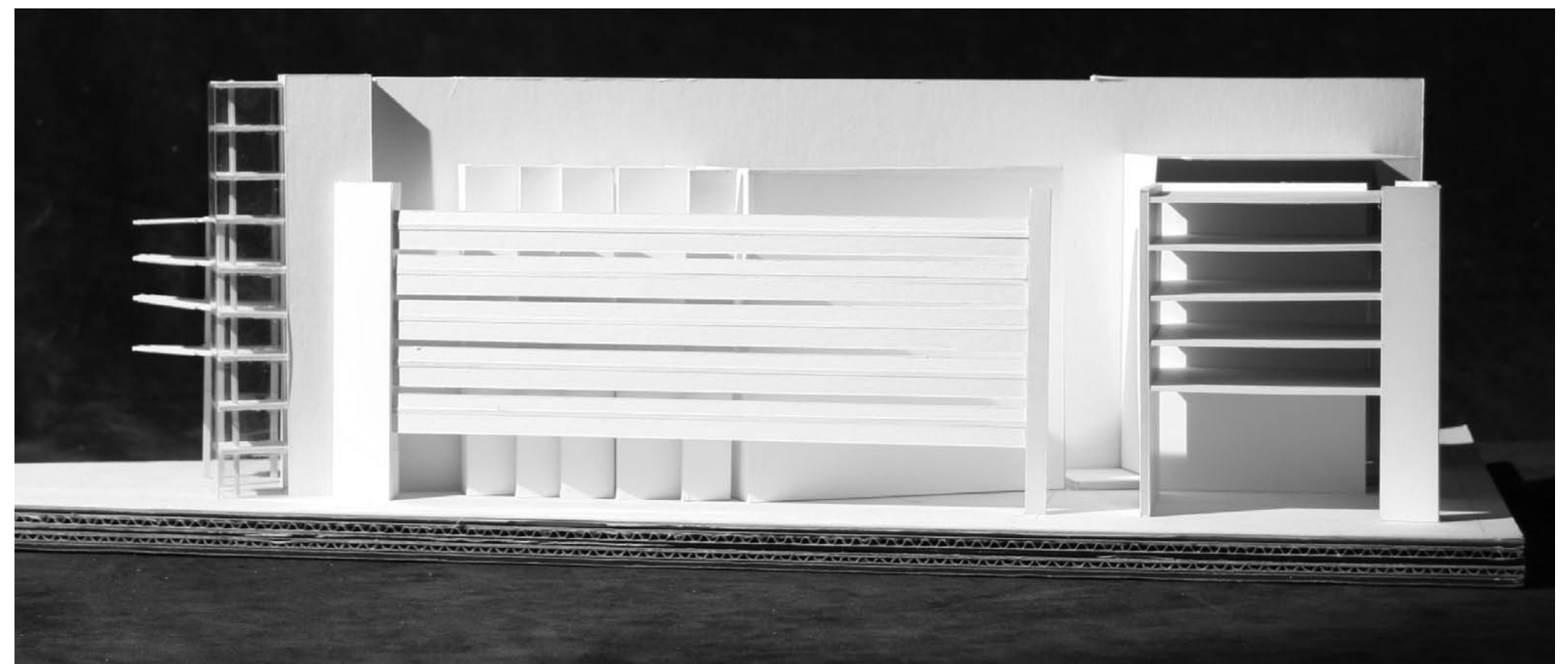
The proscenium wall was to have the series of dressing rooms and offices attached to it and at each end there were to be areas on each floor where the public or the actors could experience the city from the end of this wall that protrudes into the city's right of way. By doing this I hoped to allow everyone in the building to experience the city in a different way.

While these drawings were being developed models were made as a means of explora-

tion. One large model that appears complete on one side was used to develop the audience side of the building. This model had interchangeable parts that could be attached and detached in a way to explore and compare ideas quickly. Many of these models were crude volumes or parts from other models and were used to understand the volumes of the spaces.

The model shown on the left and below was a working model done at the same time as the plan. The concept for the screen wall was explored using the model. The front section of the proscenium wall was going to be a series of glass rooms that the audience and production staff could use. The shops shown on the far right of the image below really started to find the structure that would define them during this project. The ideas about folding walls to make the structure of the shops and production spaces really took off with this model. The slot between the shops and the screen was always intended to be the loading dock but here it becomes apparent that something needs to fill the volume above. The model on the audience side was less defined and was made from components from earlier models. Since the model was fluid on this side it allowed fluid development by being able to move and change pieces easily and quickly. This quick study method was at times faster than drawing. So the method of exploration for this building was both a series of drawings as well as a series of working models. These models evolved over time.

*Left: New York Avenue façade of sketch model. This portion of the model was an assemblage of pieces and parts that were added and taken away during the search for the form of the audience spaces. Below: K Street façade of sketch model. The elements on this side of the model are glued into place. The large beams as well as the form of the shop volume were the major reasons for building this model. One thing that became apparent when I constructed this model was that the slot between the shop volume and the east column for the beams needed some articulation and scale but the slot was important as a marker for the change in scale and change in the use of the spaces.*

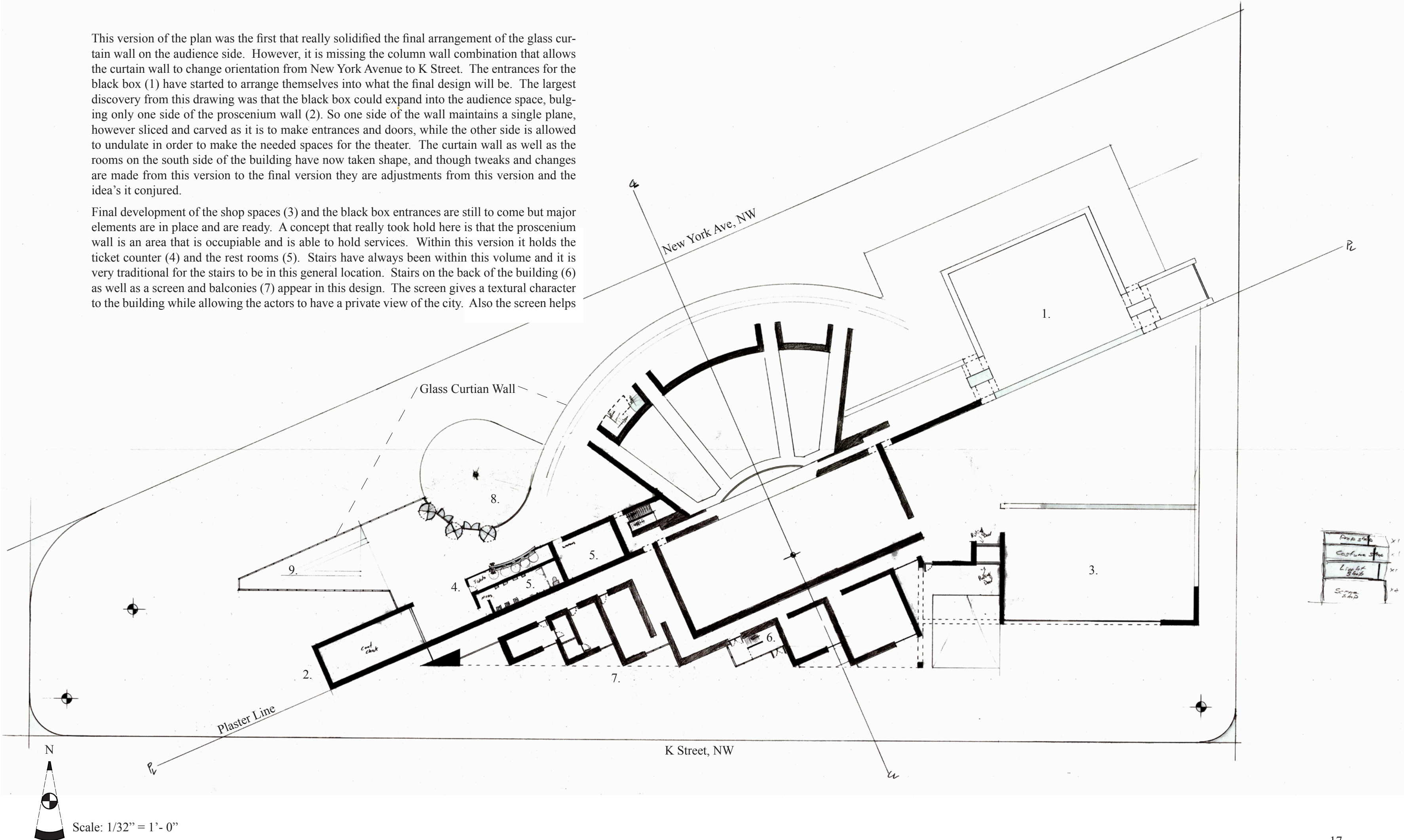


By Author

PLAN DEVELOPMENT

This version of the plan was the first that really solidified the final arrangement of the glass curtain wall on the audience side. However, it is missing the column wall combination that allows the curtain wall to change orientation from New York Avenue to K Street. The entrances for the black box (1) have started to arrange themselves into what the final design will be. The largest discovery from this drawing was that the black box could expand into the audience space, bulging only one side of the proscenium wall (2). So one side of the wall maintains a single plane, however sliced and carved as it is to make entrances and doors, while the other side is allowed to undulate in order to make the needed spaces for the theater. The curtain wall as well as the rooms on the south side of the building have now taken shape, and though tweaks and changes are made from this version to the final version they are adjustments from this version and the idea's it conjured.

Final development of the shop spaces (3) and the black box entrances are still to come but major elements are in place and are ready. A concept that really took hold here is that the proscenium wall is an area that is occupiable and is able to hold services. Within this version it holds the ticket counter (4) and the rest rooms (5). Stairs have always been within this volume and it is very traditional for the stairs to be in this general location. Stairs on the back of the building (6) as well as a screen and balconies (7) appear in this design. The screen gives a textural character to the building while allowing the actors to have a private view of the city. Also the screen helps



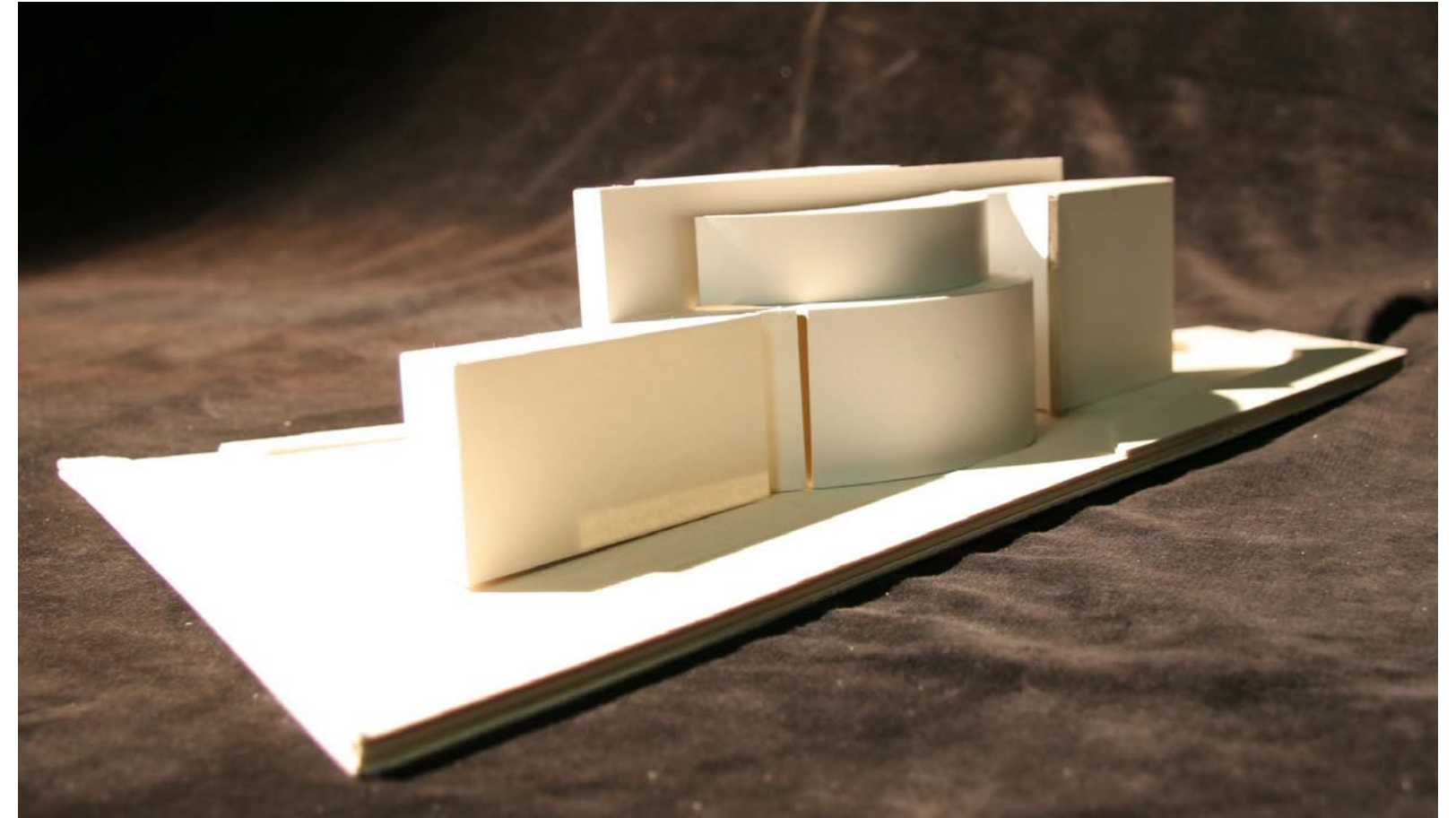
Scale: 1/32" = 1' - 0"

## PLAN DEVELOPMENT

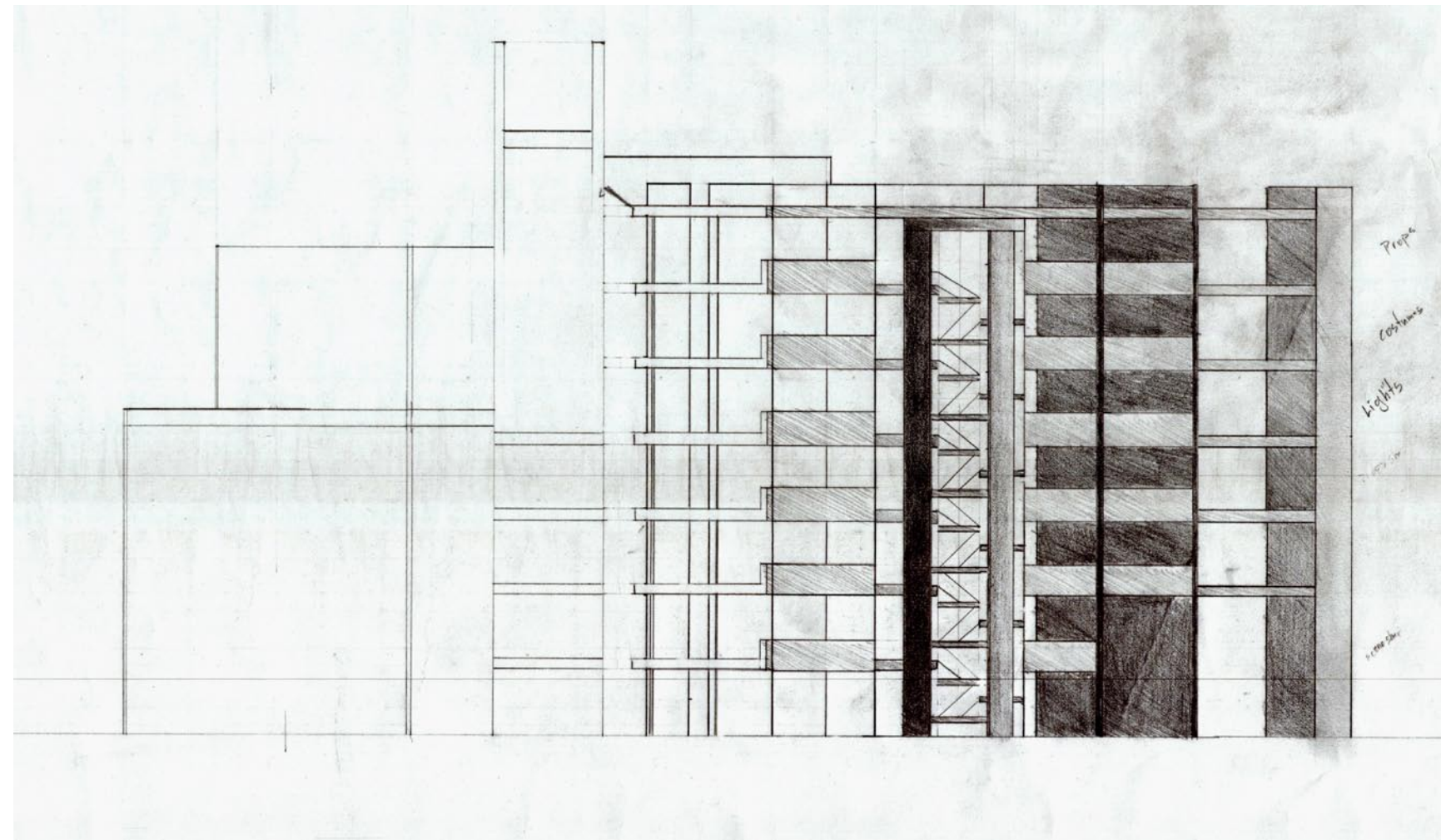
give a complimentary facade to the NPR building facade it faces like the beam and window design of the previous plan.

The counter curve (8) on the front of the building is the largest step this drawing takes. It solves a couple of geometrical issues. First the previous versions did not have a clear main entrance to the building. By creating an area of the building that is part of the city but at the same time sheltered from it creates a gigantic threshold for people to step out and walk around before and after a show. The previous versions also had an oblique angle where the curve died into the exterior facade of the building. The ending on each side of the main curve did not have a satisfactory completion of the curved surface. Thoughts about the tectonic nature of this wall brought on an idea that the curve could be used to create a right angle where it meets the exterior facade of the building. This one moment in the design of the building leads to other means and methods for rationalizing this oblique geometry. This solution becomes miniaturized and flipped inside out in order to find a satisfactory beginning for the curve on the other side.

The area at the prow of the building (9) became somewhat difficult to find a use for. The site demanded the building occupy this volume more than any other on the site. Since it is this front edge that aligns with the front of the NPR building and helps create the urban room for Mt. Vernon Square. However, at this point it is a gigantic void of space. Thoughts of how to use it came but none were particularly appropriate.



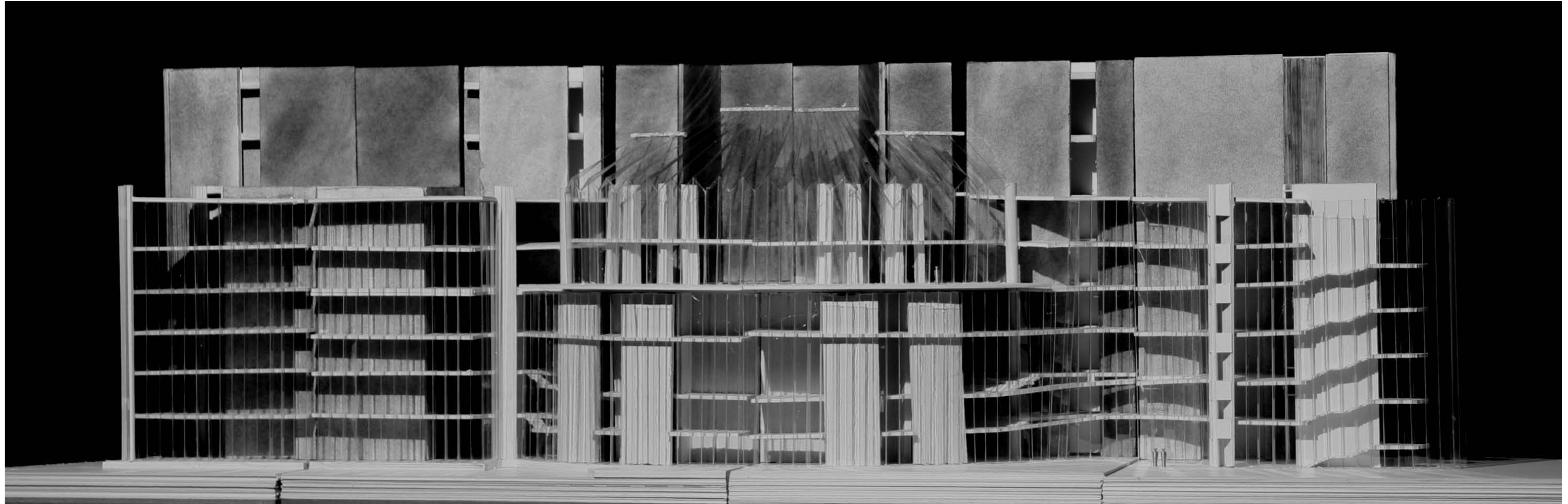
By Author



By Author

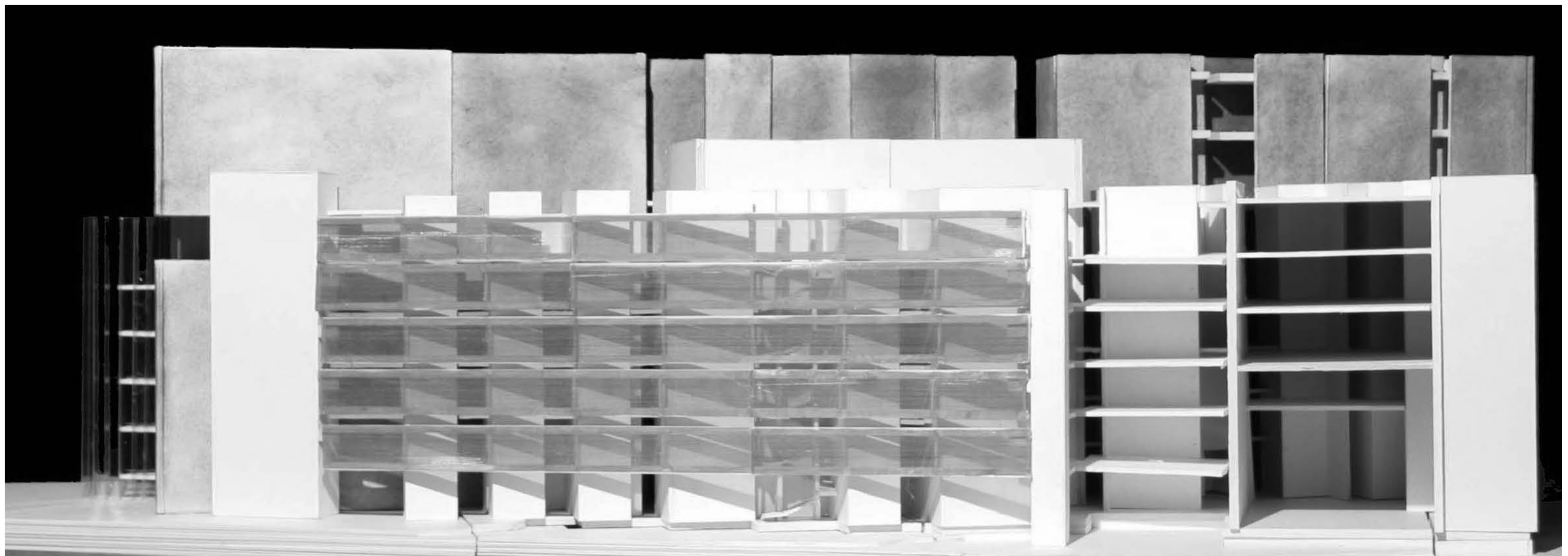
Left: This early section is through the proscenium wall on the Mt. Vernon Square side of the proscenium stage looking northwest. The notations on the right side indicate the occupancy of the stacked shops for the production staff. This section was drawn to explore the circular stair in elevation with the other components of the building. The circular stair was to be the main stair on the south side of the building as an alternative to the rectangular one that occupies the previous plan. The stair design however did not fit this part of the building and was set aside until a use was discovered on another portion of the building in later schemes. This drawing also gave insight in how the building spaces could be occupied and what form the pancaking of the floors would take. The back of the building was much more defined than the front so the audience area and what eventually became the foyer is just a set of sketched rectangles here in section. Above: This volume study model was built in sections so parts and pieces could be exchanged as the design developed. This view of the model is looking down New York Ave. toward Mt. Vernon Square. It shows one way the counter curve could work in elevation. Much of the design work was done through plan and then translated into model.

FINAL DESIGN:



*North elevation of final design (Elevation 1, page 20).*

*By Author*



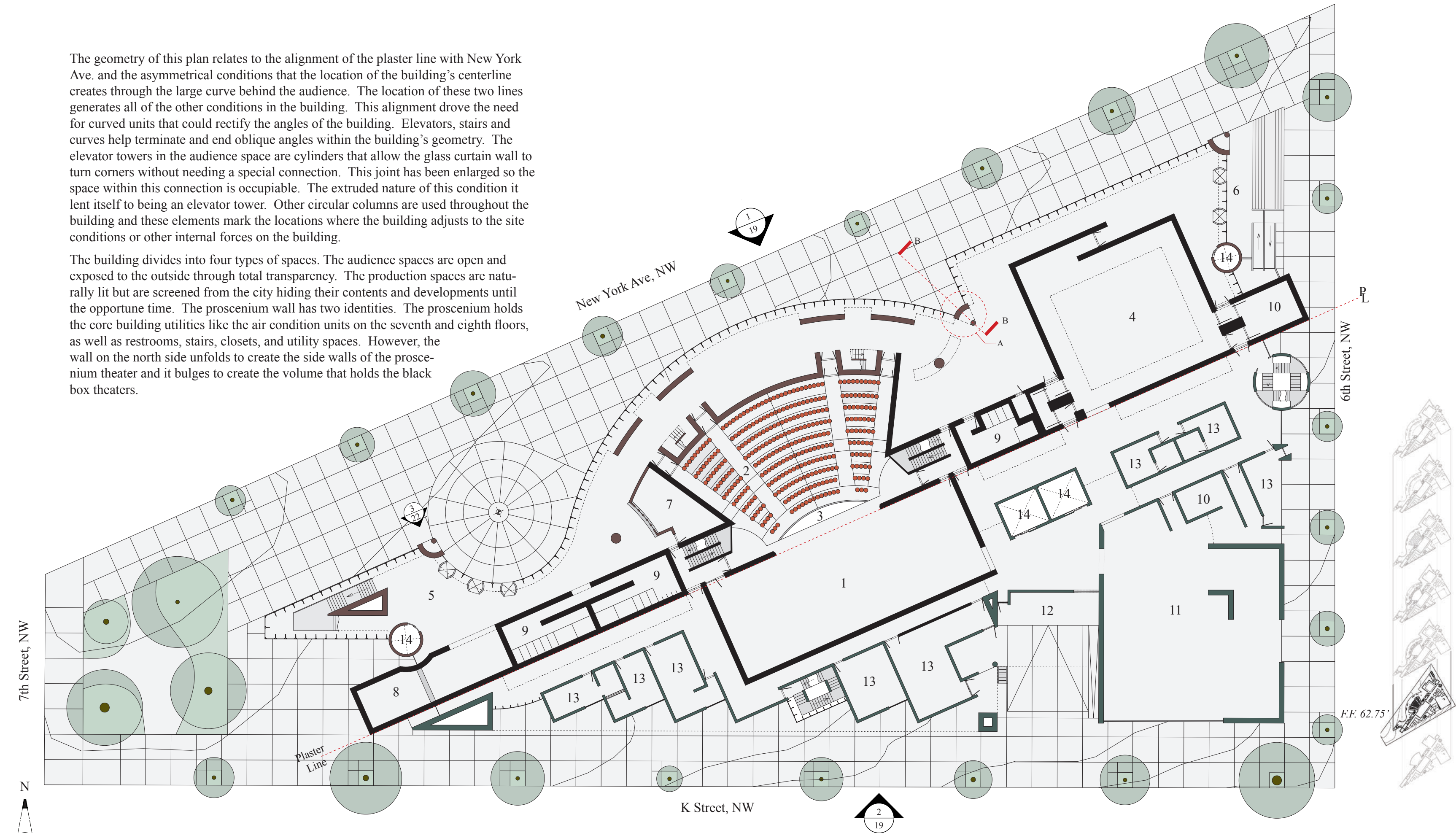
*South elevation of final design (Elevation 2, page 20).*

*By Author*

# GROUND FLOOR PLAN

The geometry of this plan relates to the alignment of the plaster line with New York Ave. and the asymmetrical conditions that the location of the building's centerline creates through the large curve behind the audience. The location of these two lines generates all of the other conditions in the building. This alignment drove the need for curved units that could rectify the angles of the building. Elevators, stairs and curves help terminate and end oblique angles within the building's geometry. The elevator towers in the audience space are cylinders that allow the glass curtain wall to turn corners without needing a special connection. This joint has been enlarged so the space within this connection is occupiable. The extruded nature of this condition it lent itself to being an elevator tower. Other circular columns are used throughout the building and these elements mark the locations where the building adjusts to the site conditions or other internal forces on the building.

The building divides into four types of spaces. The audience spaces are open and exposed to the outside through total transparency. The production spaces are naturally lit but are screened from the city hiding their contents and developments until the opportune time. The proscenium wall has two identities. The proscenium holds the core building utilities like the air condition units on the seventh and eighth floors, as well as restrooms, stairs, closets, and utility spaces. However, the wall on the north side unfolds to create the side walls of the proscenium theater and it bulges to create the volume that holds the black box theaters.



1. Proscenium Stage, 2. Proscenium Audience, 3. Orchestra Pit, 4. Black Box Theater, 5. Main Lobby, 6. Black Box Entrance, 7. Ticket Booth, 8. Coat Room, 9. Restrooms, 10. Lounge / Storage, 11. Scene Shop, 12. Loading Dock, 13. Dressing Room / Office, 14. Elevator

Scale: 1/32" = 1' - 0"



## GLASS CURTIAN WALL

The audience side of the building is completely covered by a glass curtain wall. This wall provides an opportunity for the audience to be part of the city. Becoming a light at night for the rest of Mt. Vernon Square, it allows those on the street to interact with the audience within the building. So the city and the audience spaces can become one. This facade is built in sections using spider connections glass plates and metal truss reinforcement in order to span the great heights it does.

Mechanized shades would be needed at times. However, since most of the glass wall faces north and the buildings would be used during the evenings in the fall, winter and spring the shades may not be needed during high times of occupancy. The primary use for the shades would be to protect the structure of the building from high amounts of heat gain in the summer and in the winter months.



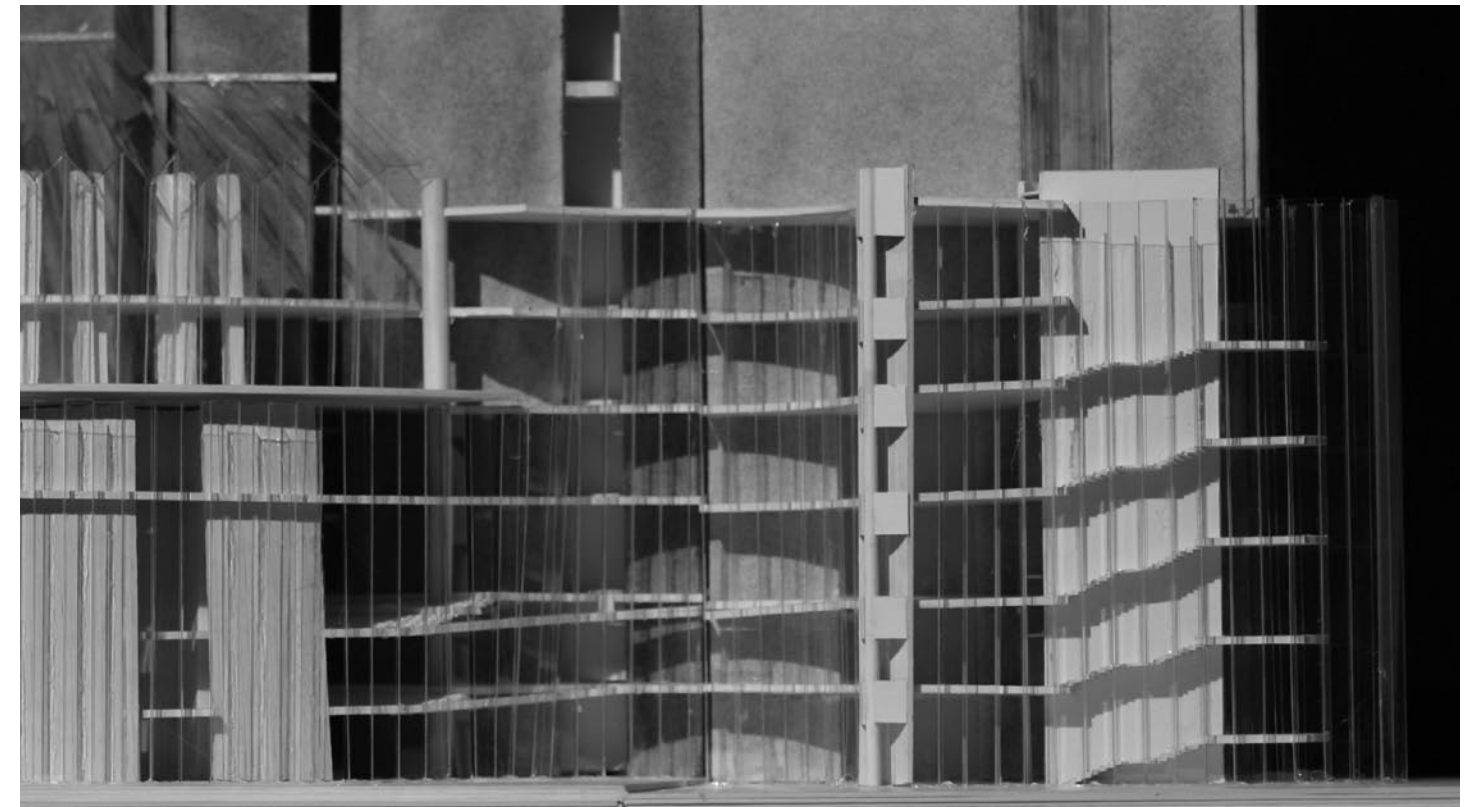
*Foyer and auditorium exterior glass curtain wall.*

*By Author*

## PROCESSION

The building has three main performance spaces. One is the proscenium theater and two are utility style black box theaters. These two spaces are stacked with other display and working spaces so the building has up to 8 spaces that small performances, readings, displays or other public events could take place. As a result of this and the size of the building as a whole, there are two main entrances into the building for the public. The first is for the proscenium theater, the lounge, and foyer. The counter curve of the building wraps back around toward New York Ave., a series of doors line one end of this wall. The counter curve's space is a public plaza that allows the audience to mix with the rest of the city before, during, and after the performance. Once the audience is within the building's glass curtain they can purchase or pickup tickets, drop their coats off, use the rest room, and then either go to the lounge on the second floor or wait outside of the theater on whichever floor their seat is. If someone is attending an event in the foyer on the fifth floor then they might take the elevator up, or take the staircase on the west side of the building. This staircase offers unparalleled views of the city and surrounding buildings as it is pushed out in front of the proscenium wall. For everyone on this side of the building the glass curtain wall allows the city to be part of the experience to see the show and in a way the audience is putting a show on for the city as they move within the building.

The black box theaters on the east side of the building have a separate entrance they can use on the corner of 6th Street and New York Ave. The site is lower on this corner than it is on the western side of the site so the entrance is elevated from the street. A few steps and a ramp make the entrance different and allow people on the steps to be part of the city but off of the street and sidewalk. Inside the curtain wall is the main black box theater and an elevator to take patrons to the other performance spaces directly above. Restrooms are located behind the black box between it and the east side of the proscenium theater. The access on this side of the building is more appropriate for these spaces, since they have fewer audience members, so the entrance is scaled to be more like a front stoop to a house. This more intimate setting, is appropriate to the type of theater that is produced in these kinds of spaces.



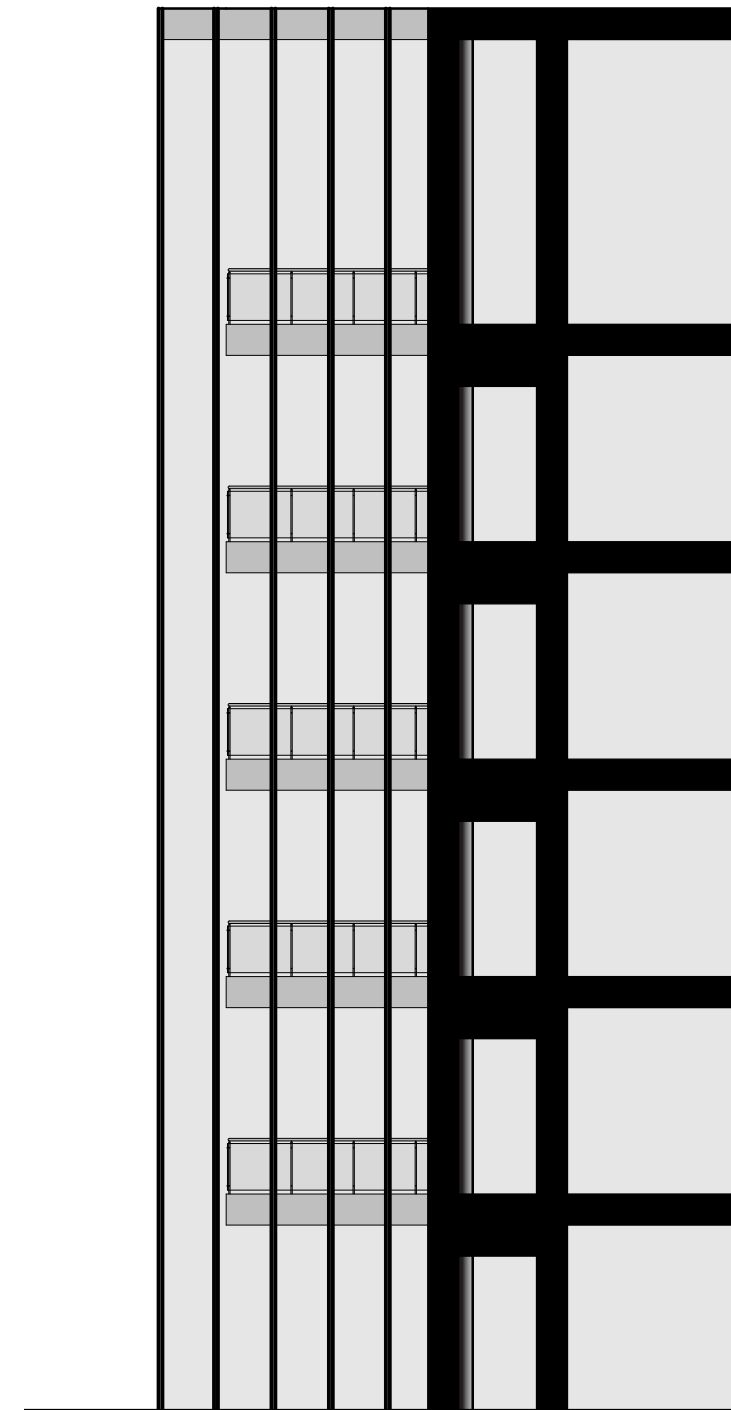
*Detail elevation of north west facade.*

*By Author*

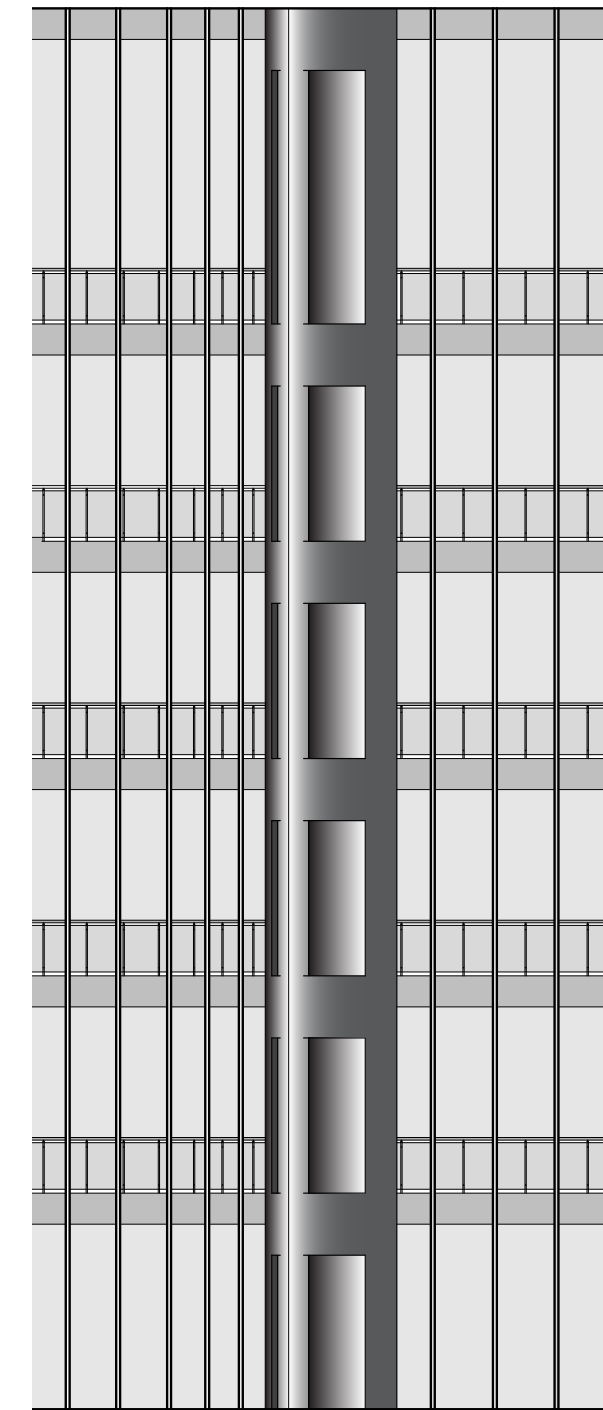
## CURVED COLUMN

The evolution of the curved column element was rather quick in many ways. The change in geometry between the audience for the proscenium theater's exterior wall and the black box theater's exterior glass wall was at an acute angle. On the west side of the building the change in direction for the glass wall from a curve to a straight run was handled by the counter curve. The counter curve made it possible to meet these two walls at a right angle to one another. The eastern joint was much tighter and needed a much more compact solution. The models and drawings indicated a reveal was needed but something that worked more like a knife cut rather than a scoop from the building. The circle used on the other side was a clue and the first draft of this joint was just a solid column that created a marker for the apex. The solution was not as satisfactory because the corner was still very tight and at ground level the joint might have a tendency to collect trash and debris. I tried enlarging the column a couple of times and eventually I found a solution where the column had become so large it was bordering on ridiculous. However, the space between the walls was much better. It became a haven on the street from the flow of traffic. On the inside of the building this monster column was out of scale with the elements around it. A wedge worked well since the angle between the two walls was tight. The wedge lacked character and did not work as well here as it had in other places in the design. By cutting the wedge into a circular column and a curved wall tied together by a thickened floor slab it created space within the element. Seats or a kiosk become possible within this volume and it is now an added layer of texture for the building's flow rather than another large element. By trying to inhabit this space it also gives the occupants a little bit of privacy within the niche that is absent from other parts of the building. An exterior version of it also appears in two places on the building, one is at the corner at 6th street and New York and the other is where the counter curve meets the wall parallel to New York Ave. One location on the glass curtain wall is an oblique angle without the wall column pair to assist in jointing the two surfaces. This joint is on the North West corner of the west stairwell. Since the stairwell is trying to get an unobstructed view of the city from this point the use of a column was not desirable. So the added difficulty to detail this corner would be worth it, because it would allow for a less obstructed view from this key location in the building.

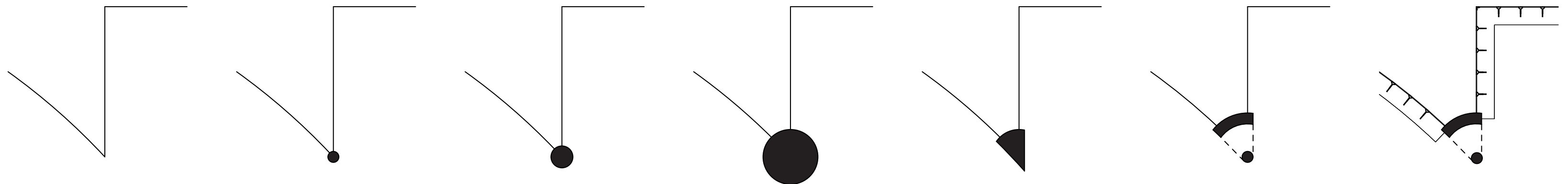
This one element led to other thoughts about how to use similar units to turn corners within the building. Large circular elements help turn oblique corners. Two of these hold elevators within themselves, while one is a curved stairwell and the last two are large solid columns that help the glass on the fifth and sixth floors terminate and turn. These two large columns extend the whole height of the building as a mark on the other floors for what is happening above them.



Section through interior column-wall pair (Section B-B, page 20).



Elevation of the western exterior column-wall pair (Elevation 3, page 20).

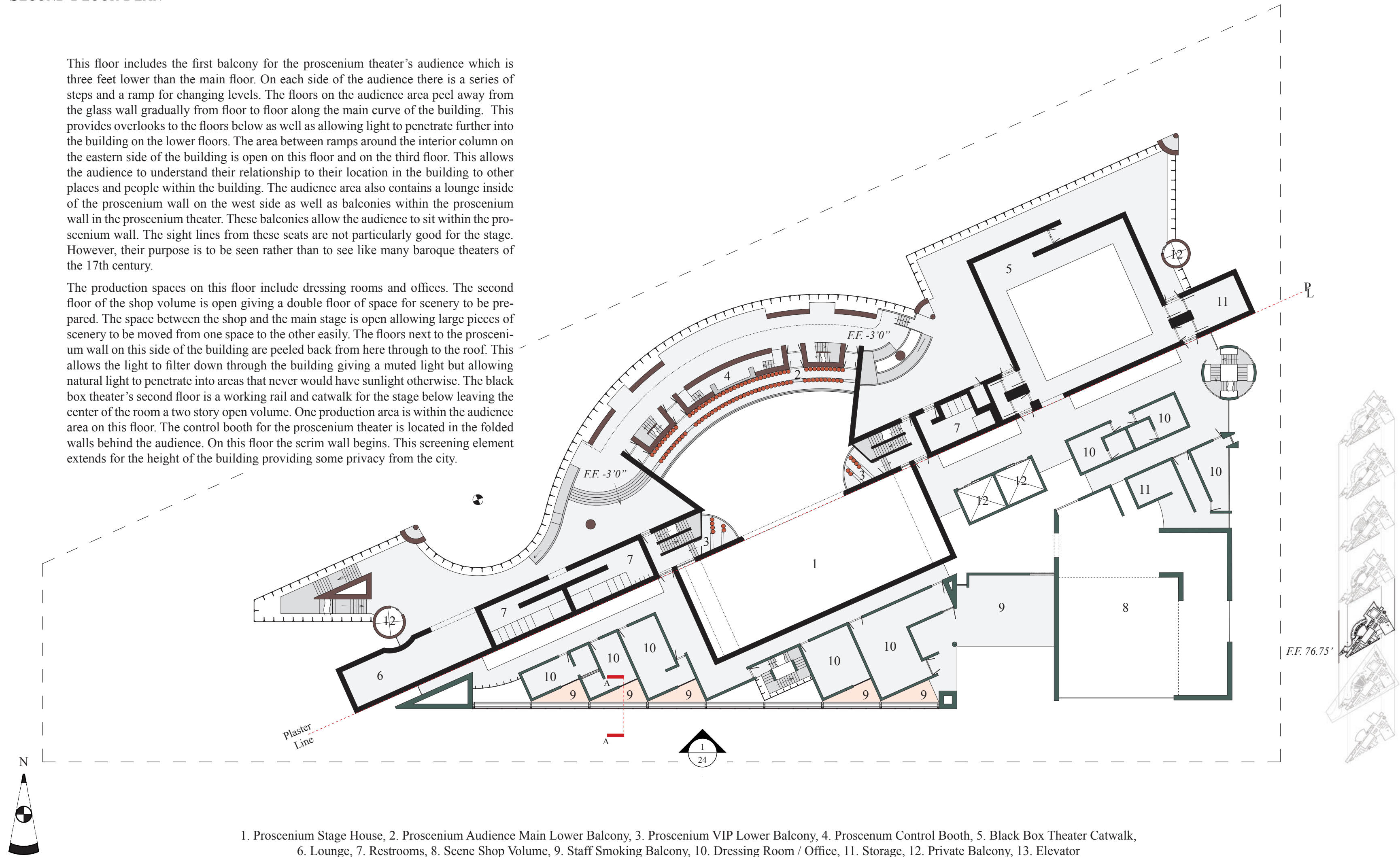


Evolution of the column-wall element in plan (Plan Detail A, page 20).

## SECOND FLOOR PLAN

This floor includes the first balcony for the proscenium theater's audience which is three feet lower than the main floor. On each side of the audience there is a series of steps and a ramp for changing levels. The floors on the audience area peel away from the glass wall gradually from floor to floor along the main curve of the building. This provides overlooks to the floors below as well as allowing light to penetrate further into the building on the lower floors. The area between ramps around the interior column on the eastern side of the building is open on this floor and on the third floor. This allows the audience to understand their relationship to their location in the building to other places and people within the building. The audience area also contains a lounge inside of the proscenium wall on the west side as well as balconies within the proscenium wall in the proscenium theater. These balconies allow the audience to sit within the proscenium wall. The sight lines from these seats are not particularly good for the stage. However, their purpose is to be seen rather than to see like many baroque theaters of the 17th century.

The production spaces on this floor include dressing rooms and offices. The second floor of the shop volume is open giving a double floor of space for scenery to be prepared. The space between the shop and the main stage is open allowing large pieces of scenery to be moved from one space to the other easily. The floors next to the proscenium wall on this side of the building are peeled back from here through to the roof. This allows the light to filter down through the building giving a muted light but allowing natural light to penetrate into areas that never would have sunlight otherwise. The black box theater's second floor is a working rail and catwalk for the stage below leaving the center of the room a two story open volume. One production area is within the audience area on this floor. The control booth for the proscenium theater is located in the folded walls behind the audience. On this floor the scrim wall begins. This screening element extends for the height of the building providing some privacy from the city.



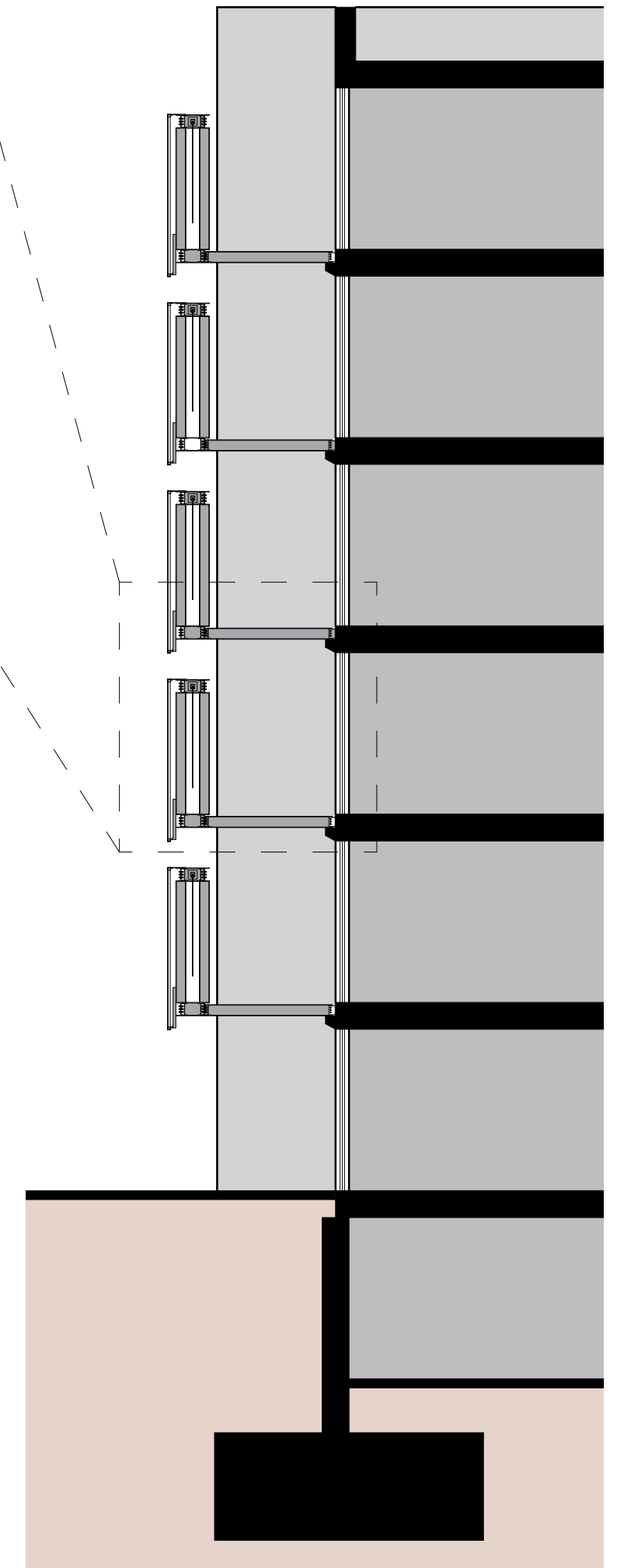
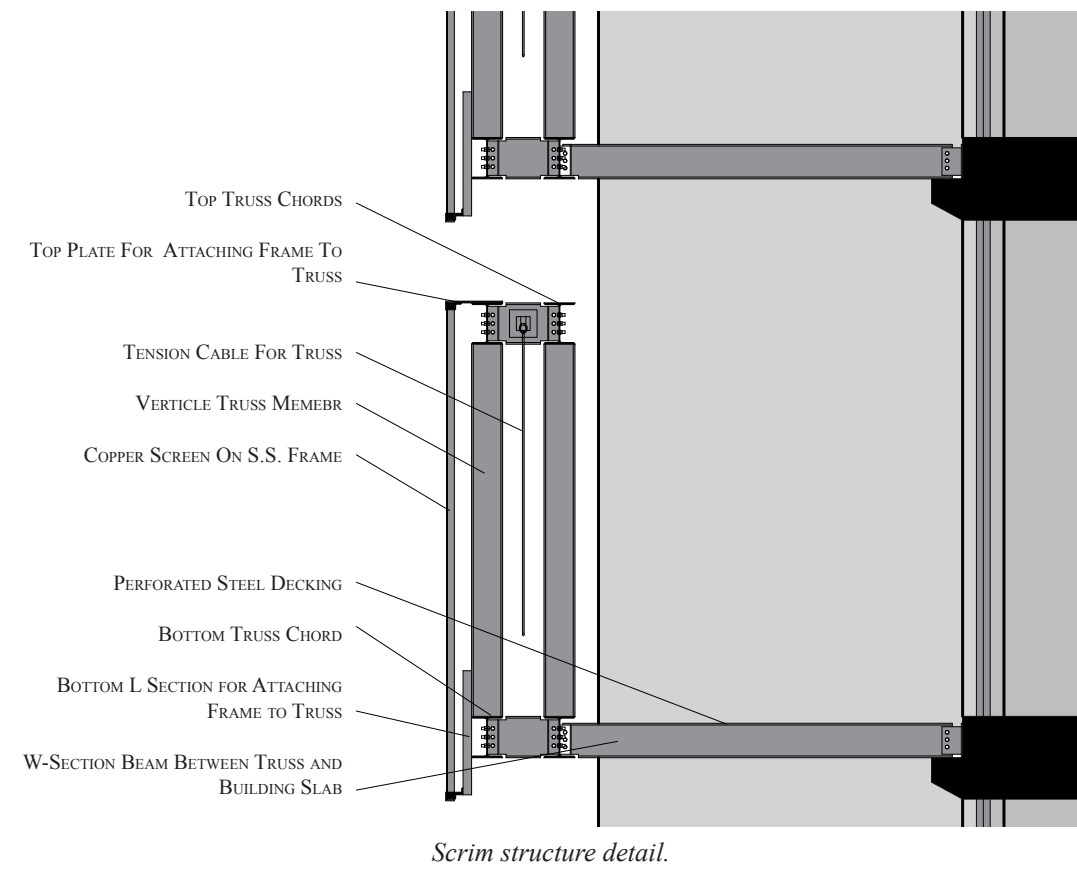
1. Proscenium Stage House, 2. Proscenium Audience Main Lower Balcony, 3. Proscenium VIP Lower Balcony, 4. Proscenium Control Booth, 5. Black Box Theater Catwalk, 6. Lounge, 7. Restrooms, 8. Scene Shop Volume, 9. Staff Smoking Balcony, 10. Dressing Room / Office, 11. Storage, 12. Private Balcony, 13. Elevator

Scale: 1/32" = 1'-0"

## COPPER SCRIM WALL

The copper screen works as a scrim. Scrim in theater are screens or fabrics that appear opaque when they are lit from the front, but when they are lit from behind they appear translucent or transparent. This is a classic stage technique that is traditionally used to hide something from the audience and then magically and fluidly make it appear. The copper screen during the day would be lit from the outside of the building so it would appear opaque and then during the evening the rooms inside the building would light it from behind. Thus the actors and production staff would be hidden from the city and the audience during the day but at night the silhouettes of the building occupants hint at the activity inside the building. This screen is also part of a balcony system in which each of the dressing rooms, offices, and other rooms that back to the screen have places to experience the city and in many cases smoke.

The copper screen's structure is a series of stainless steel frames with copper screen attached. These are attached to a twelve high truss that spans between two large columns two-hundred feet apart. The truss is counter curved anticipating the weight of itself, the screens, and the balcony floors. The floors are perforated steel or wood slats held up by steel beams that attach to niches in the wall and the bottom members of the truss.



Elevation of scrim wall (Elevation 1, page 23).

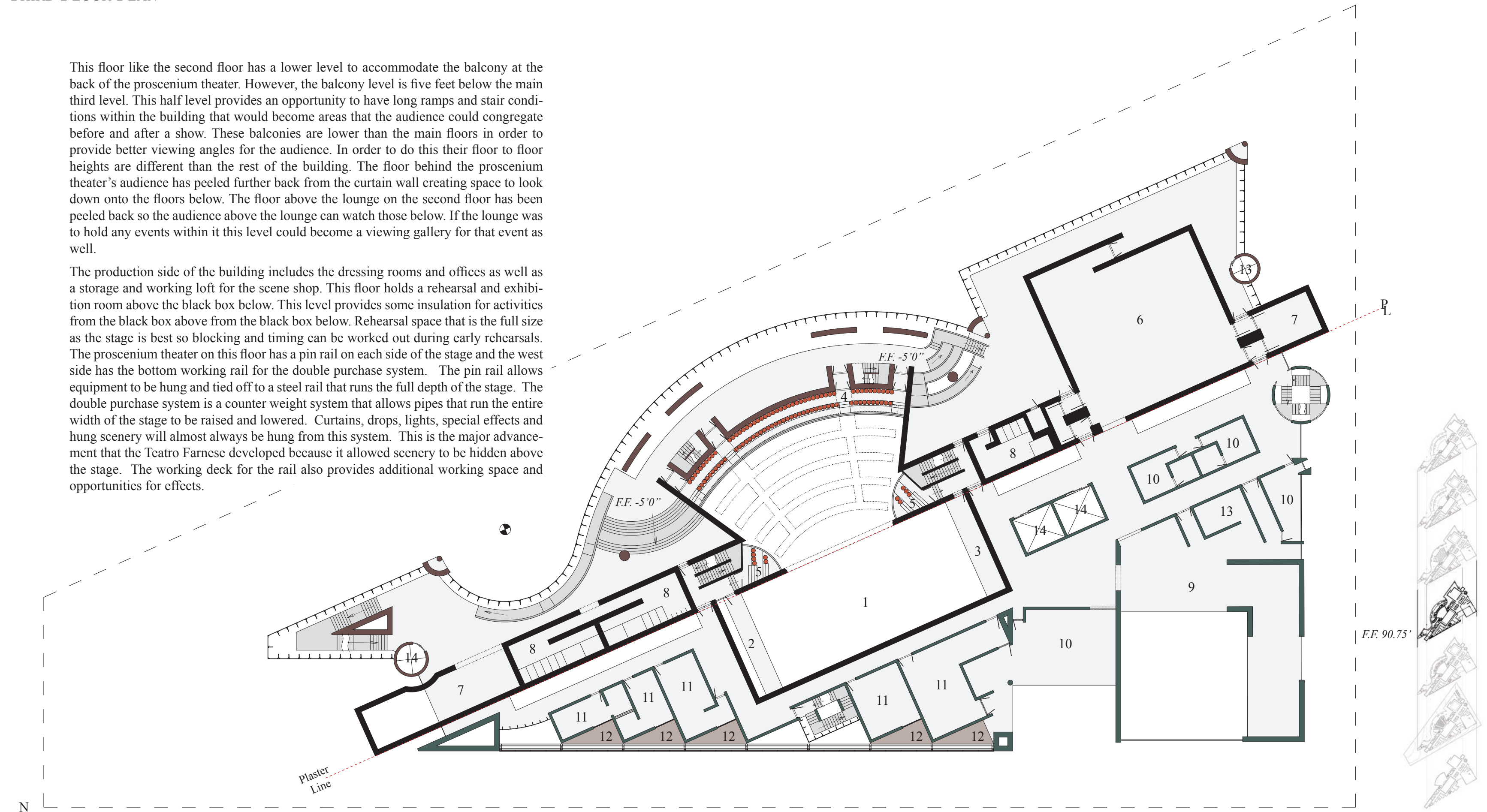
By Author

Section of scrim structure (Section A-A, page 23).

# THIRD FLOOR PLAN

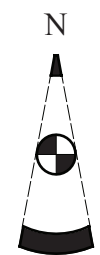
This floor like the second floor has a lower level to accommodate the balcony at the back of the proscenium theater. However, the balcony level is five feet below the main third level. This half level provides an opportunity to have long ramps and stair conditions within the building that would become areas that the audience could congregate before and after a show. These balconies are lower than the main floors in order to provide better viewing angles for the audience. In order to do this their floor to floor heights are different than the rest of the building. The floor behind the proscenium theater's audience has peeled further back from the curtain wall creating space to look down onto the floors below. The floor above the lounge on the second floor has been peeled back so the audience above the lounge can watch those below. If the lounge was to hold any events within it this level could become a viewing gallery for that event as well.

The production side of the building includes the dressing rooms and offices as well as a storage and working loft for the scene shop. This floor holds a rehearsal and exhibition room above the black box below. This level provides some insulation for activities from the black box above from the black box below. Rehearsal space that is the full size as the stage is best so blocking and timing can be worked out during early rehearsals. The proscenium theater on this floor has a pin rail on each side of the stage and the west side has the bottom working rail for the double purchase system. The pin rail allows equipment to be hung and tied off to a steel rail that runs the full depth of the stage. The double purchase system is a counter weight system that allows pipes that run the entire width of the stage to be raised and lowered. Curtains, drops, lights, special effects and hung scenery will almost always be hung from this system. This is the major advancement that the Teatro Farnese developed because it allowed scenery to be hidden above the stage. The working deck for the rail also provides additional working space and opportunities for effects.



- 1. Proscenium Stage House, 2. Fly Rail, 3. Working Rail, 4. Proscenium Audience Main Upperr Balcony, 5. Proscenium VIP Upper Balcony, 6. Rehearsal / Recital Room, 7. Lounge / Recital Space, 8. Restrooms, 9. Scene Shop Storage Loft, 10. Staff Smoking Balcony, 11. Dressing Room / Office, 12. Private Balcony, 13. Storage, 14. Elevator

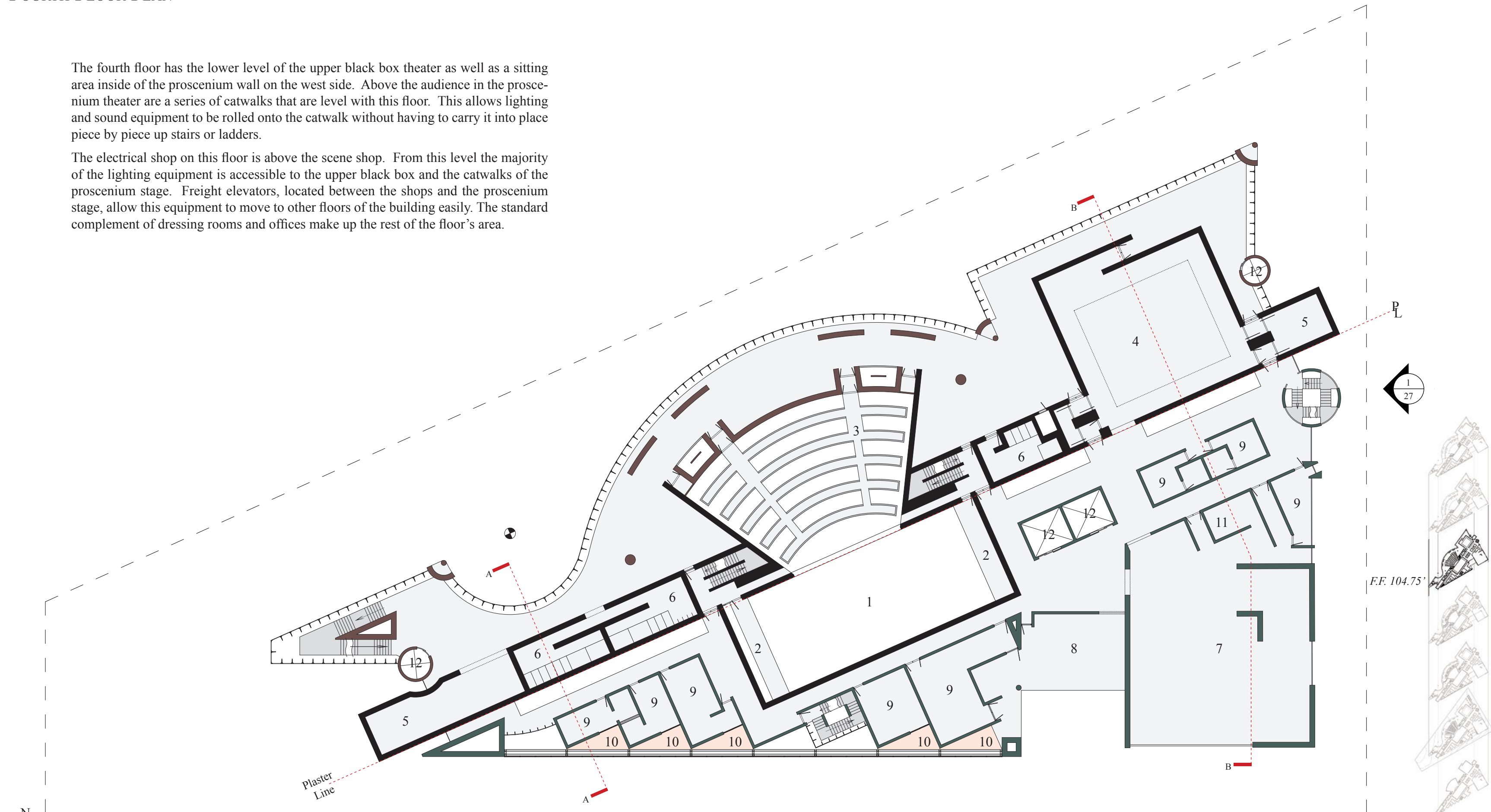
Scale: 1/32" = 1' - 0"



# FOURTH FLOOR PLAN

The fourth floor has the lower level of the upper black box theater as well as a sitting area inside of the proscenium wall on the west side. Above the audience in the proscenium theater are a series of catwalks that are level with this floor. This allows lighting and sound equipment to be rolled onto the catwalk without having to carry it into place piece by piece up stairs or ladders.

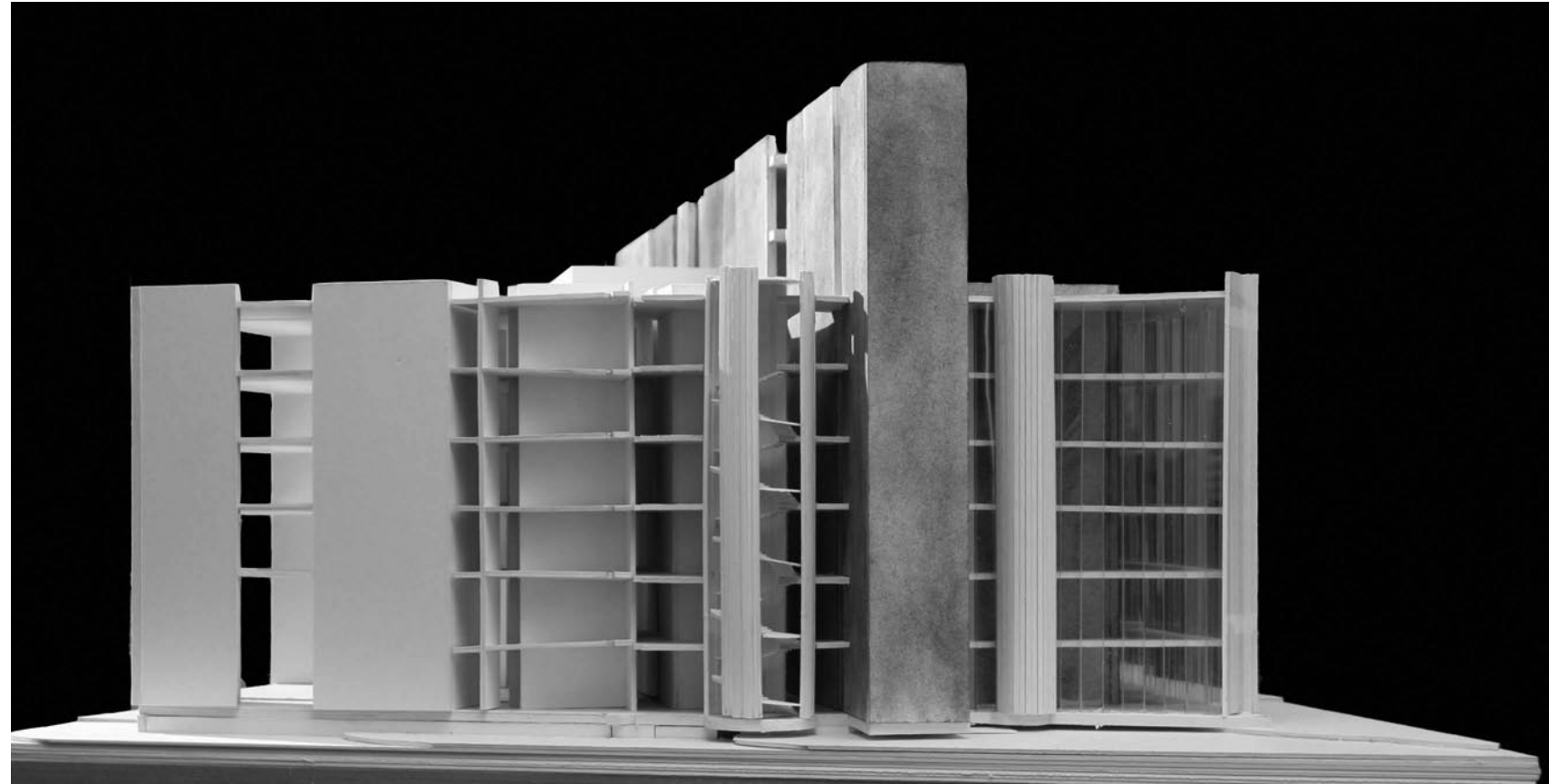
The electrical shop on this floor is above the scene shop. From this level the majority of the lighting equipment is accessible to the upper black box and the catwalks of the proscenium stage. Freight elevators, located between the shops and the proscenium stage, allow this equipment to move to other floors of the building easily. The standard complement of dressing rooms and offices make up the rest of the floor's area.



- 1. Proscenium Stage House, 2. Working Rail, 3. Proscenium Catwalks, 4. Upper Black Box Theater, 5. Lounge / Recital Space, 6. Restrooms,
- 7. Light Shop, 8. Staff Smoking Balcony, 9. Dressing Room / Office, 10. Private Balcony, 11. Storage, 12. Elevator

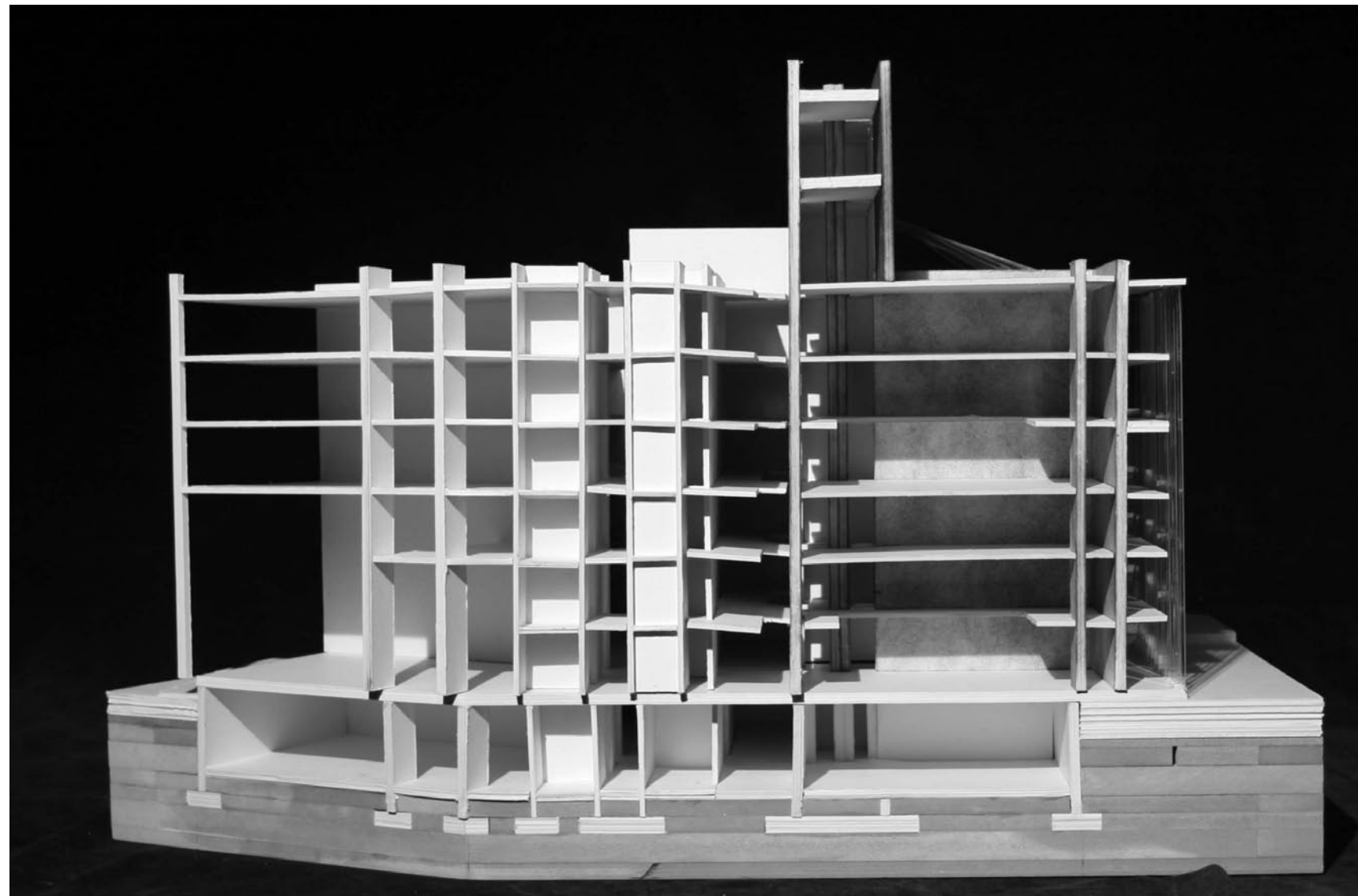
Scale: 1/32" = 1' - 0"

MODEL ELEVATION AND SECTIONS



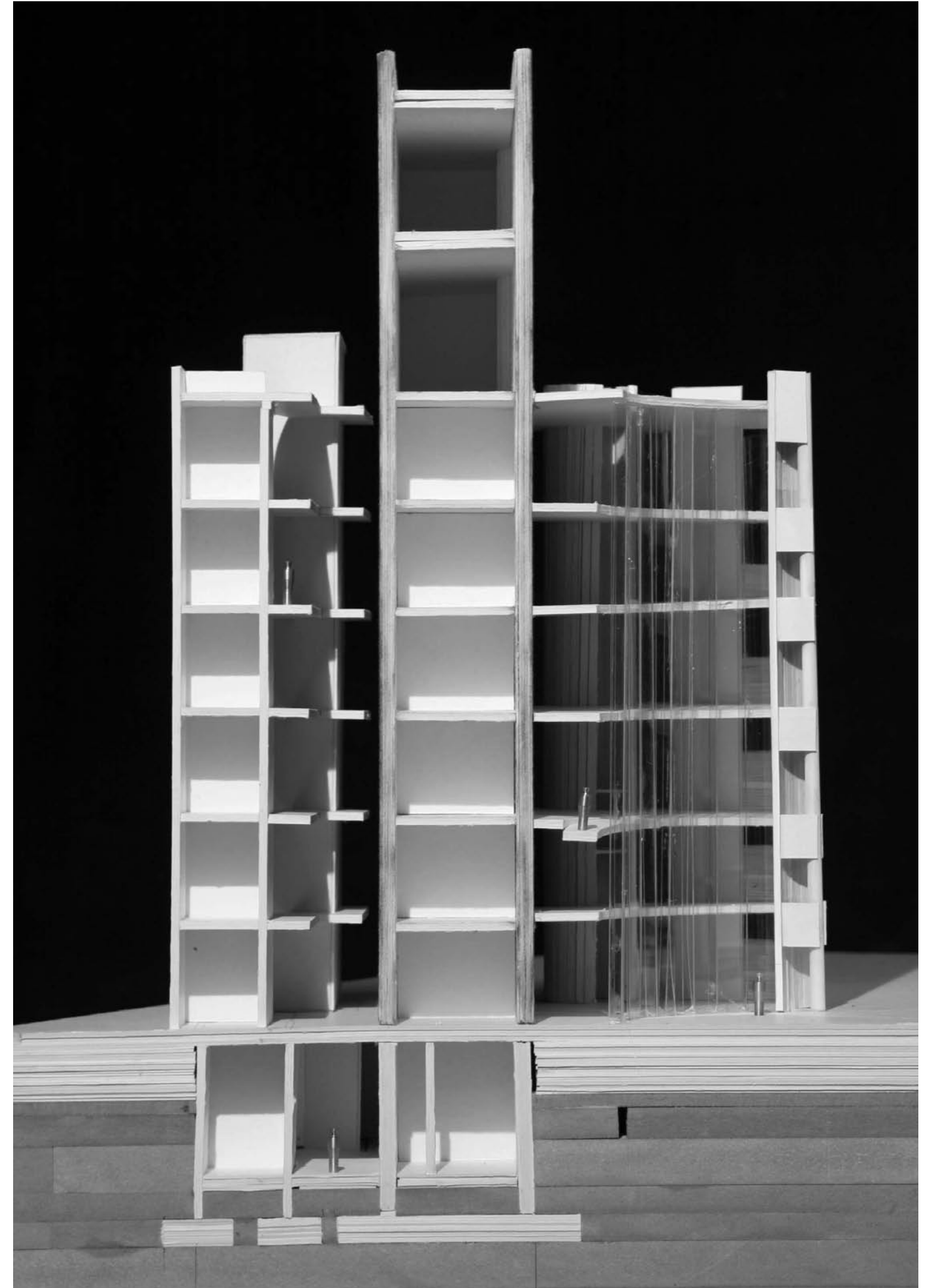
East elevation of final design (Elevation 1, page 26).

By Author



Section through shops and black box theaters looking west (Section B-B, page 26).

By Author



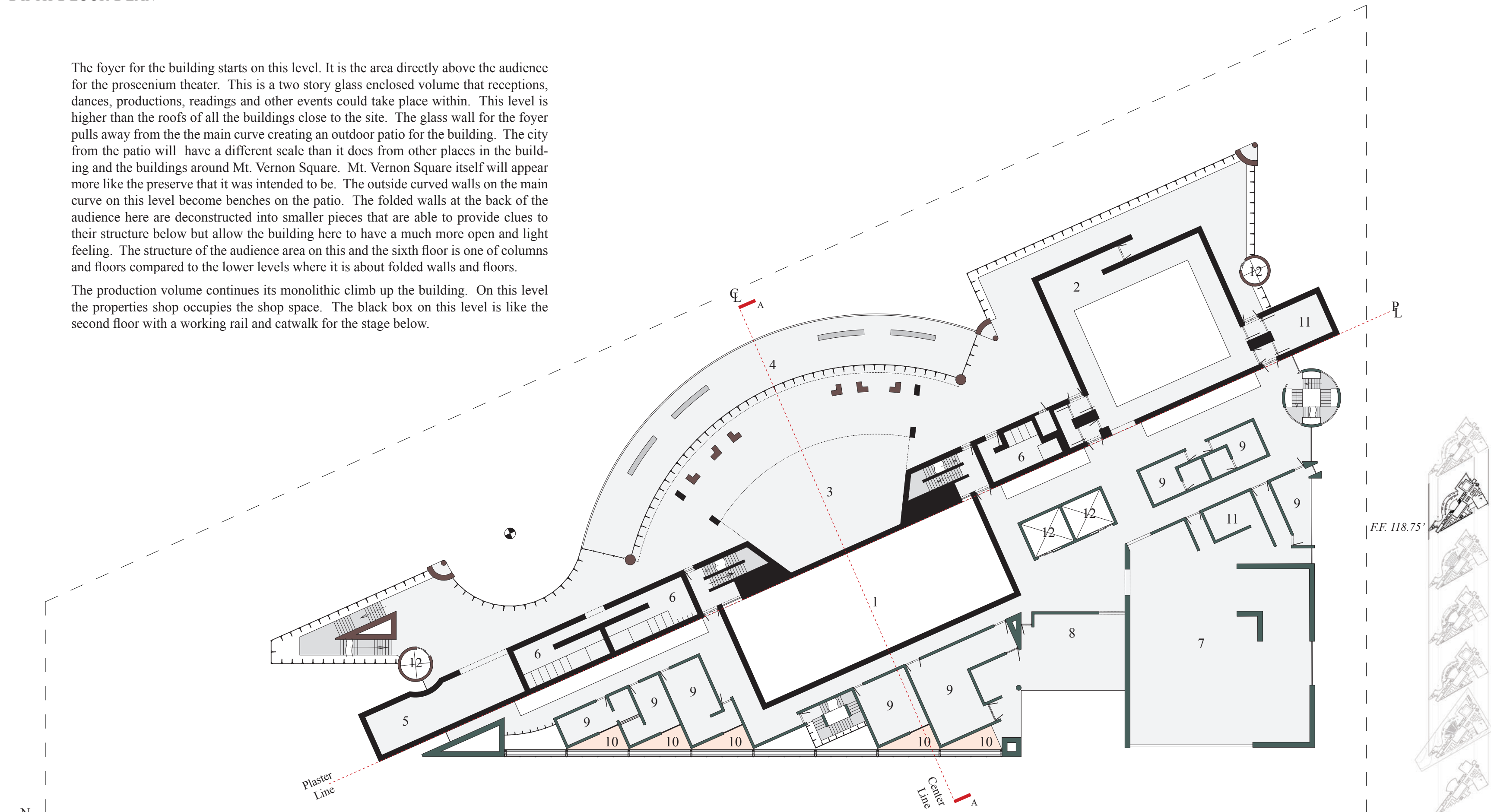
Section through counter curve looking west (Section A-A, page 26).

By Author

# FIFTH FLOOR PLAN

The foyer for the building starts on this level. It is the area directly above the audience for the proscenium theater. This is a two story glass enclosed volume that receptions, dances, productions, readings and other events could take place within. This level is higher than the roofs of all the buildings close to the site. The glass wall for the foyer pulls away from the main curve creating an outdoor patio for the building. The city from the patio will have a different scale than it does from other places in the building and the buildings around Mt. Vernon Square. Mt. Vernon Square itself will appear more like the preserve that it was intended to be. The outside curved walls on the main curve on this level become benches on the patio. The folded walls at the back of the audience here are deconstructed into smaller pieces that are able to provide clues to their structure below but allow the building here to have a much more open and light feeling. The structure of the audience area on this and the sixth floor is one of columns and floors compared to the lower levels where it is about folded walls and floors.

The production volume continues its monolithic climb up the building. On this level the properties shop occupies the shop space. The black box on this level is like the second floor with a working rail and catwalk for the stage below.

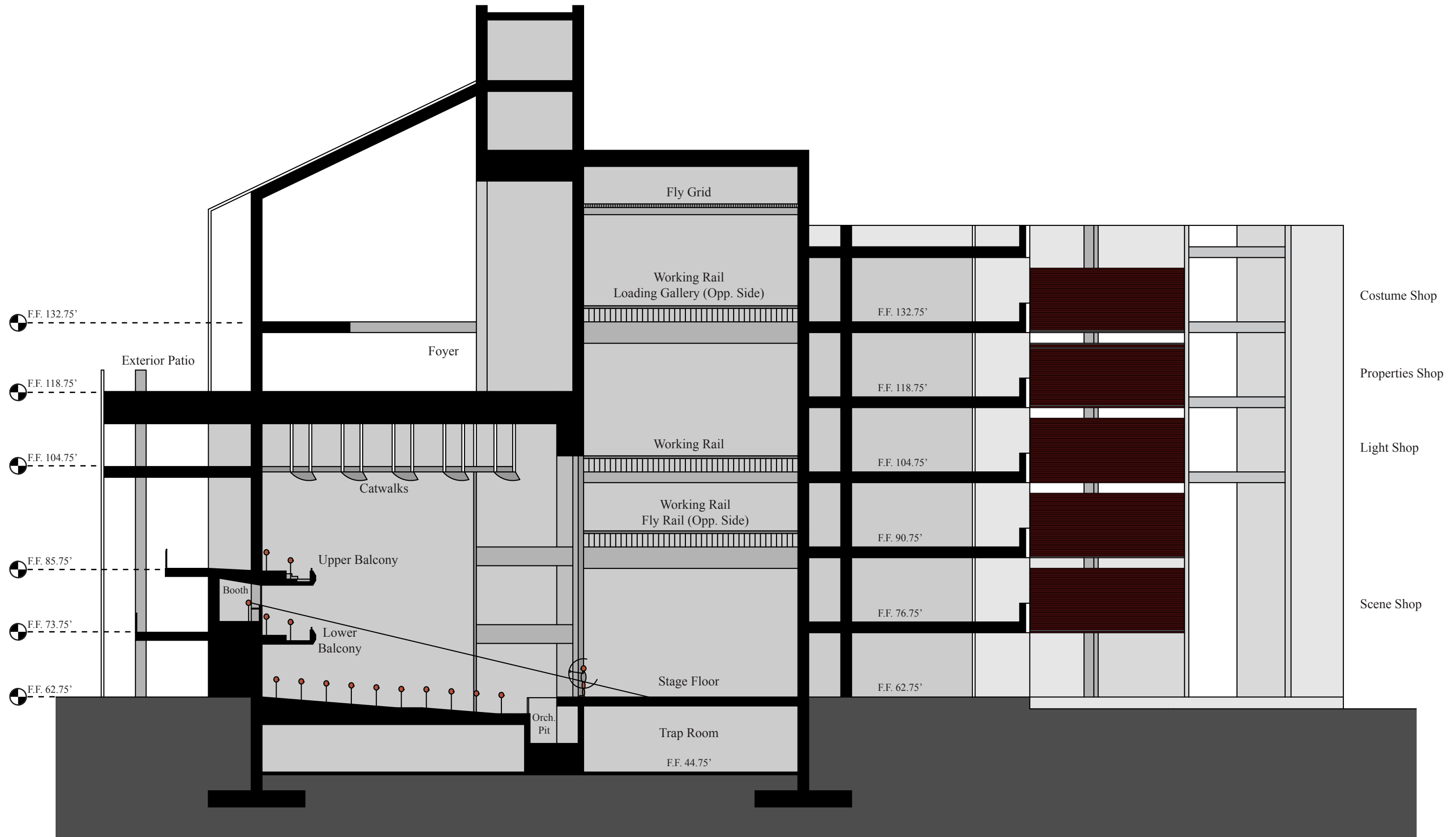


1. Proscenium Stage House, 2. Upper Black Box Theater Catwalk, 3. Foyer, 4. Public Roof Top Patio, 5. Lounge / Recital Space, 6. Restrooms, 7. Properties Shop, 8. Staff Smoking Balcony, 9. Dressing Room / Office, 10. Private Balcony, 11. Storage, 12. Elevator

Scale: 1/32" = 1' - 0"



TRANSVERSE SECTION

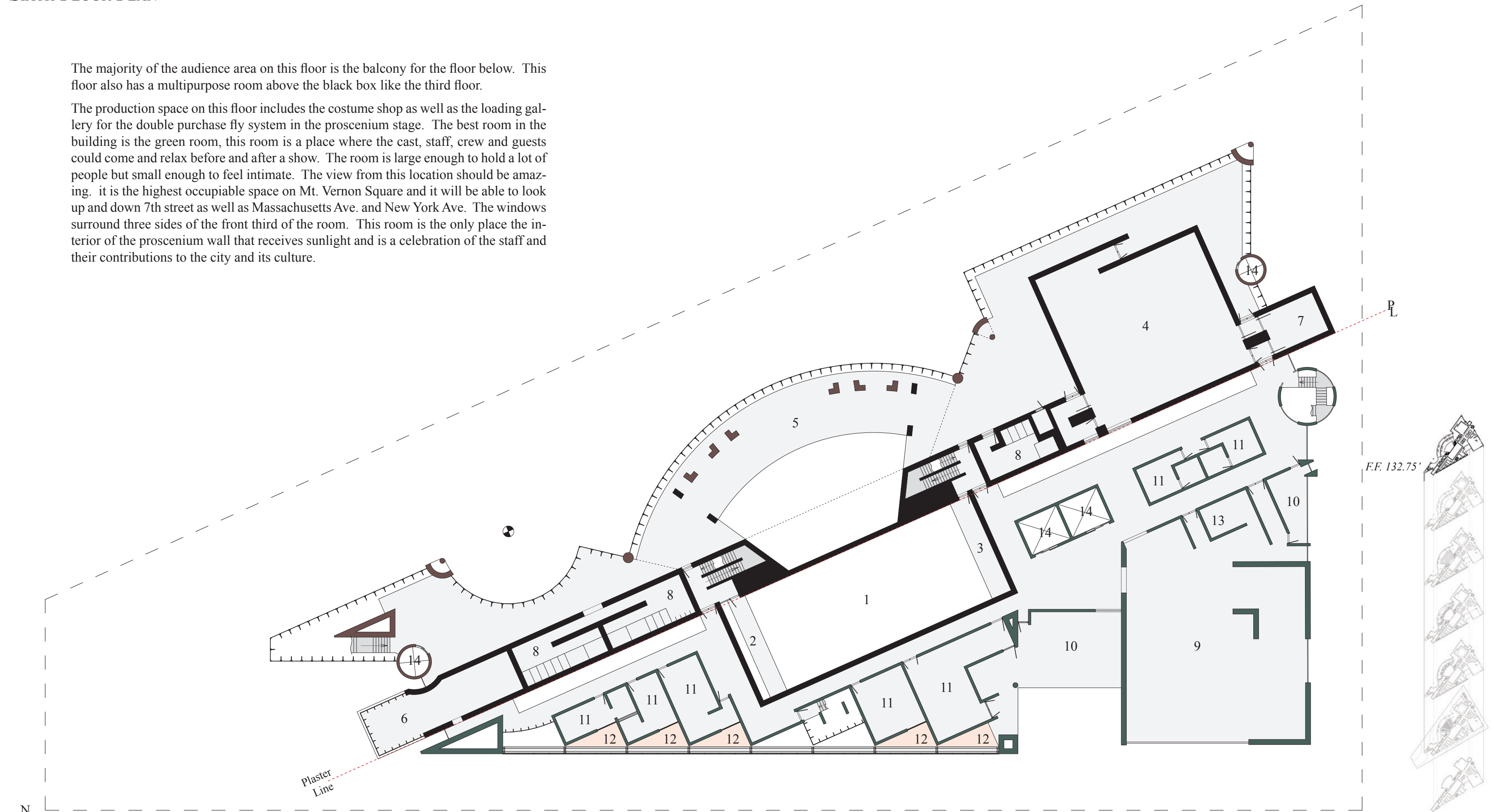


Transverse section along proscenium theater's center line (Section A-A, page 28).

# SIXTH FLOOR PLAN

The majority of the audience area on this floor is the balcony for the floor below. This floor also has a multipurpose room above the black box like the third floor.

The production space on this floor includes the costume shop as well as the loading gallery for the double purchase fly system in the proscenium stage. The best room in the building is the green room, this room is a place where the cast, staff, crew and guests could come and relax before and after a show. The room is large enough to hold a lot of people but small enough to feel intimate. The view from this location should be amazing. It is the highest occupiable space on Mt. Vernon Square and it will be able to look up and down 7th street as well as Massachusetts Ave. and New York Ave. The windows surround three sides of the front third of the room. This room is the only place the interior of the proscenium wall that receives sunlight and is a celebration of the staff and their contributions to the city and its culture.

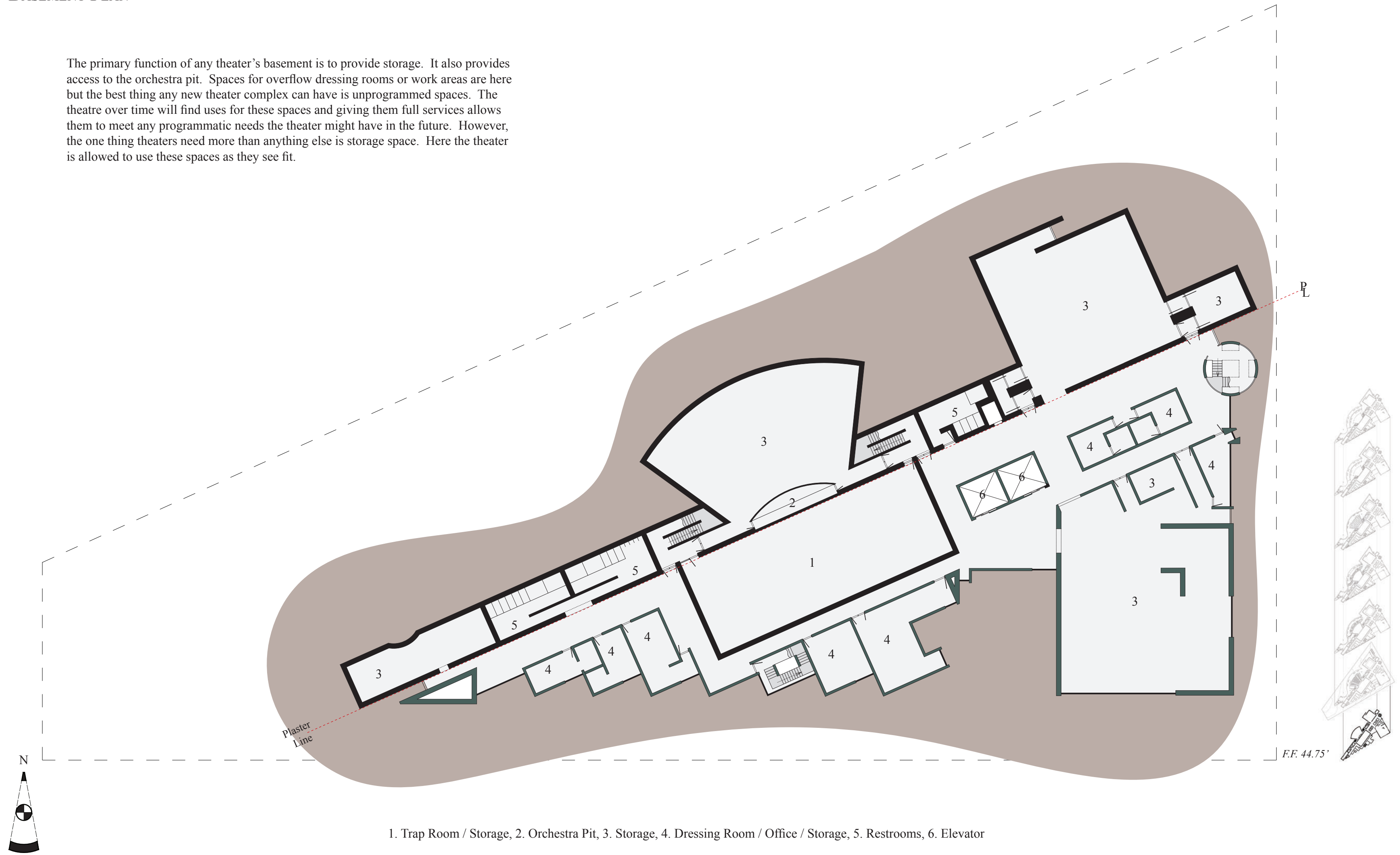


- 1. Proscenium Stage House, 2. Loading Gallery, 3. Working Rail, 4. Rehearsal / Recital Space, 5. Foyer Balcony, 6. Green Room, 7. Lounge / Recital Space,
- 8. Restrooms, 9. Costume Shop, 10. Staff Smoking Balcony, 11. Dressing Room / Office, 12. Private Balcony, 13. Storage, 14. Elevator

Scale: 1/32" = 1' - 0"

# BASEMENT PLAN

The primary function of any theater's basement is to provide storage. It also provides access to the orchestra pit. Spaces for overflow dressing rooms or work areas are here but the best thing any new theater complex can have is unprogrammed spaces. The theatre over time will find uses for these spaces and giving them full services allows them to meet any programmatic needs the theater might have in the future. However, the one thing theaters need more than anything else is storage space. Here the theater is allowed to use these spaces as they see fit.

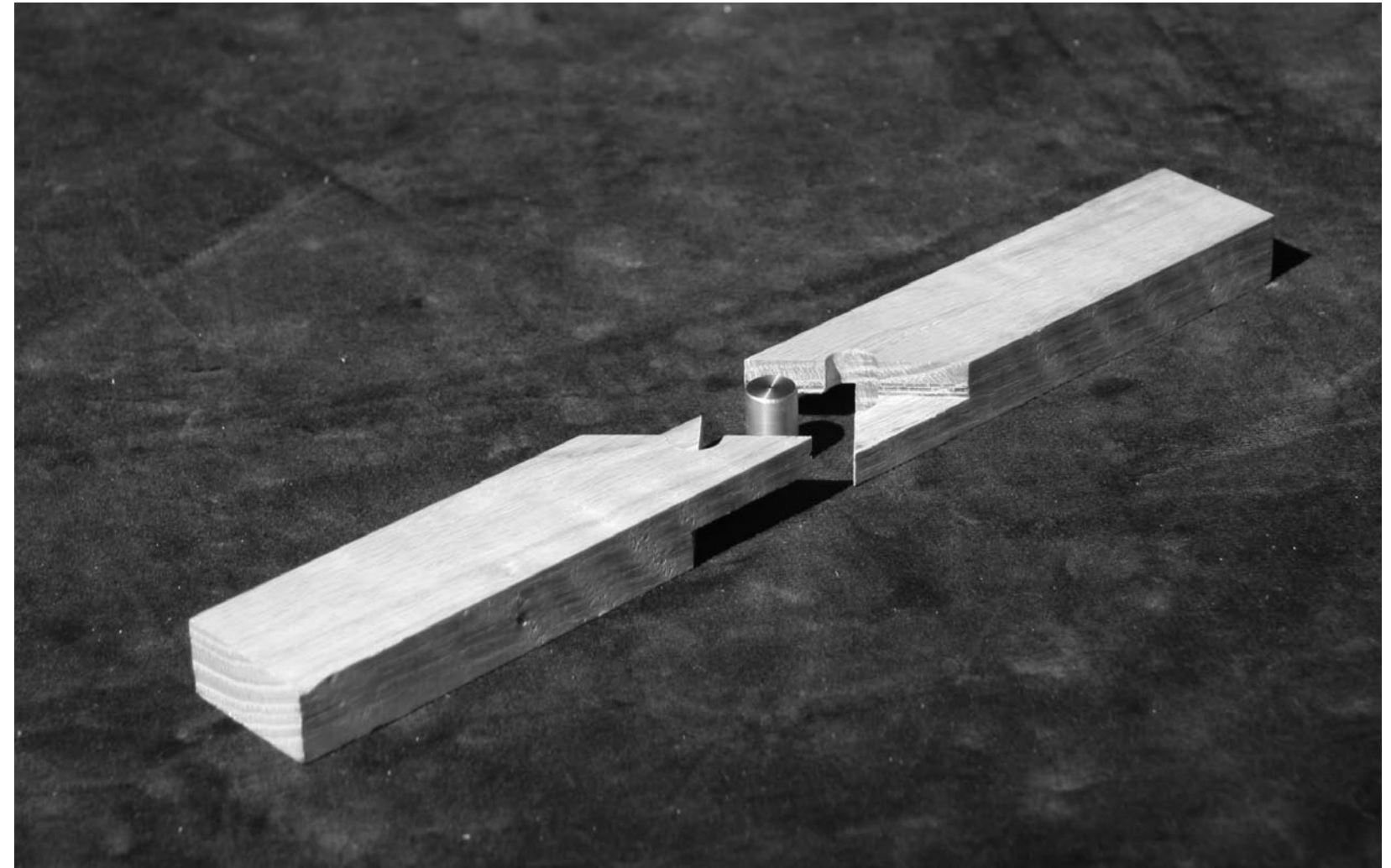


1. Trap Room / Storage, 2. Orchestra Pit, 3. Storage, 4. Dressing Room / Office / Storage, 5. Restrooms, 6. Elevator

Scale: 1/32" = 1' - 0"

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Wood Joint, stainless steel and red oak.

*By Author*

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