

A Study of Dynamic + Static Space

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

Hans C. Rott, Chair

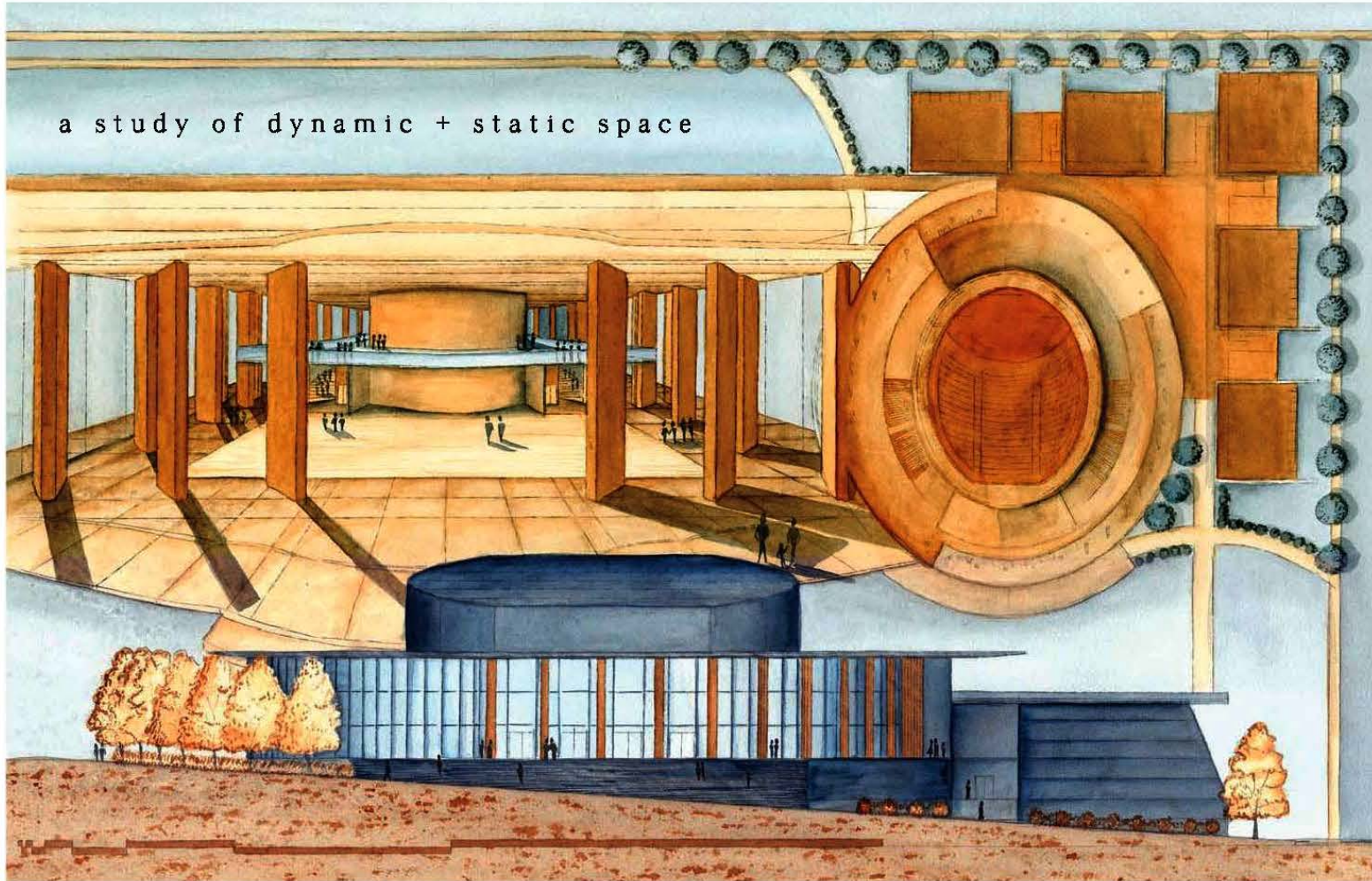
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a study of dynamic + static space

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Architecture and dance are both able to communicate through a language of rhythm and choreography. The fluidity and balance of a dancer as an artistic endeavor can be an inspiration, to develop analogous architectural forms as a kind of transcribed motions of the dance.

A dancer's movements and pauses can be interpreted as dynamic and static architectural moments. Dynamic space suggests to be active, and continuous, while static aims to be passive, tranquil and defined.

A proposal for an Art Center consisting of theater and a studio space serves as a vehicle to explore formally the spatial components inspired by dance. In the proposal, the theater embodies the active expression of motion. This provides a dynamic architectural space through two concentric curved enclosures that expand and contract horizontally and vertically. In contrast, the studios form a static shell, promoting a serene environment where the architecture frames the dancer's activity.

The duality of dynamic and static architectural space in the work is a primary framework. The dynamic expresses the kinetic nature of architectural elements in space; in contrast, the static reveals the potential of a precisely measured room to achieve a balanced harmony when juxtaposed together.

a b s t r a c t

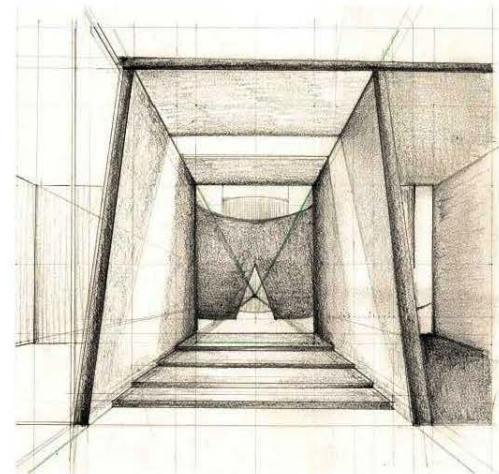
I would to thank my committee, Hans, Heiner and Bill for their guidance and motivation over the last year. You pushed me further than I thought was possible.

To my family in London, Florida and New York, thank you for your encouragement and support. Especially Mataji - Even though you are not here today, thank you for believing in me and teaching me to follow my dreams.

My friends and peers for their support and friendship over the years. The knowledge and laughter we have shared will never be forgotten.

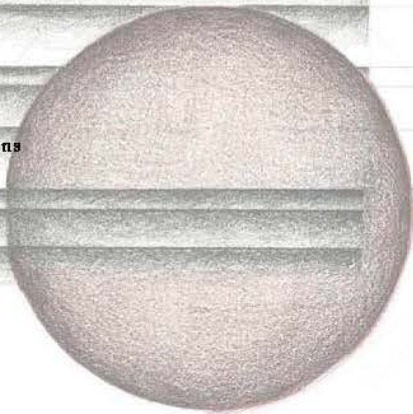
Jesse - Thank you for taking the time to listen to my many thesis dilemma's, whatever it may have been that week. Our architecture road trips and coffee breaks inspired and challenged me in more ways than you could have imagined.

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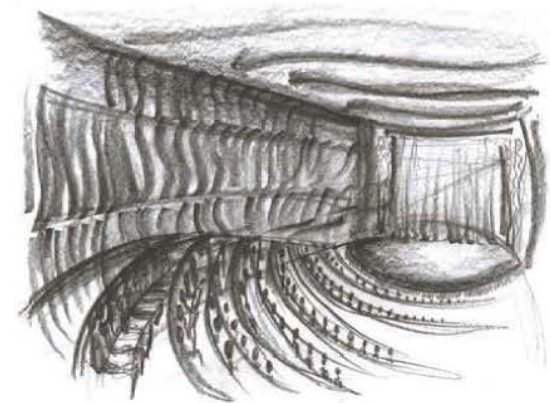
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Dance as inspiration.

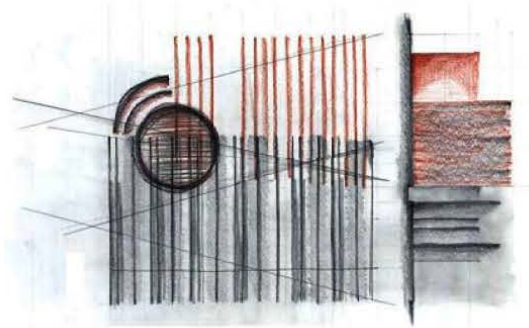
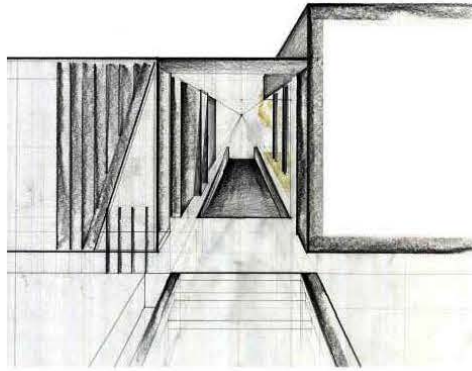
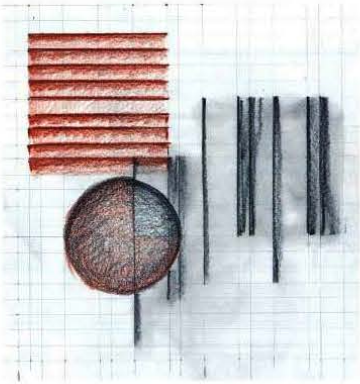
Architecture and dance are both able to communicate through a language of rhythm and choreography. The dance behind the inspiration explored through this thesis is Bhangra.

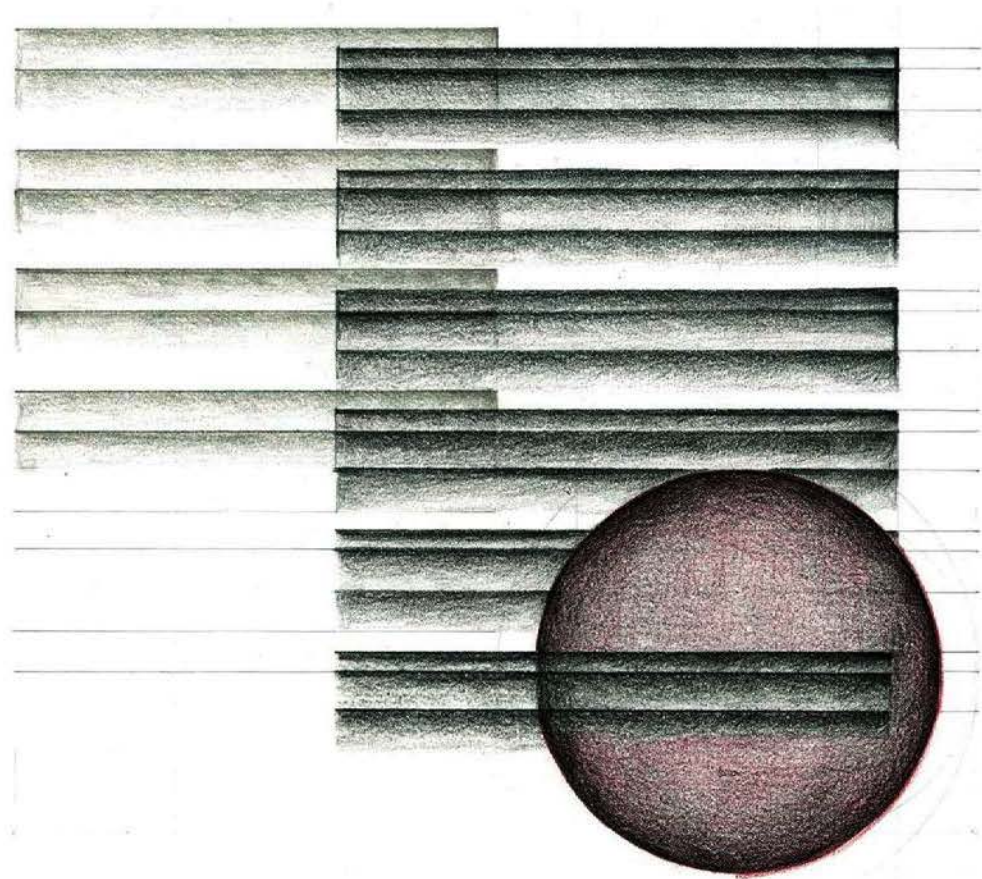
Bhangra is a traditional form of music and dance originating from the north-west region of India, in Punjab. Initially, Bhangra was set out to celebrate the harvest of the crops, and as time has passed it has become an important part of weddings and other festivals.

The following sketches are aimed at expressing how the melody and rhythm of Bhangra can be expressed through a two-dimensional drawing. Translating dance into an inspiration for an architectural form.



inspiration





Dynamic space suggests to be active, inviting and continuous.

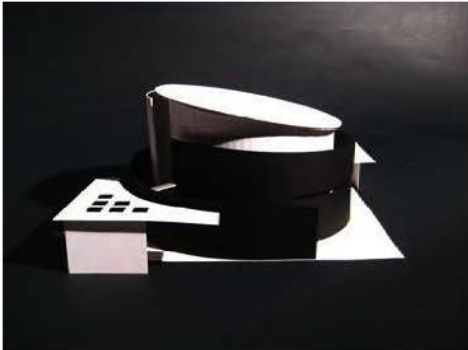
A linear space allows the eye to follow a straight line into a point in the distance where its end can be seen.

A curvilinear space suggests to be more sensual and perhaps more directly related to the line of a dancers body, capturing the audience in one sweeping motion. A curvilinear space guides the eye to travel through the space. The spatial outline intrigues a dynamic exploration.

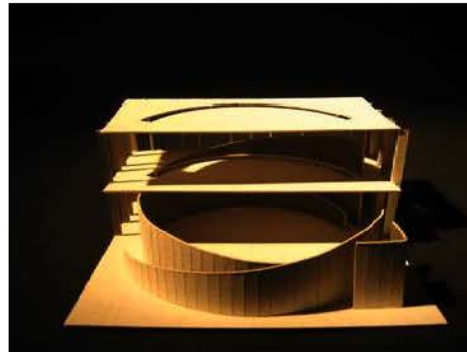
A curvilinear architectural form was chosen for the dynamic space of the theater. The following sketches and drawings are a study of how the space could be presented and perceived.

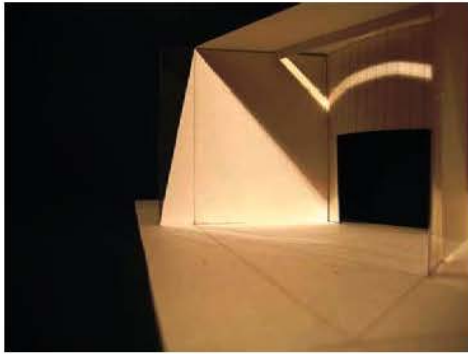


dynamic space



Initial study models explore how curvilinear forms create light and shadows. Two intersecting curvilinear forms, a curvilinear form in contrast to a linear form and interact playfully.

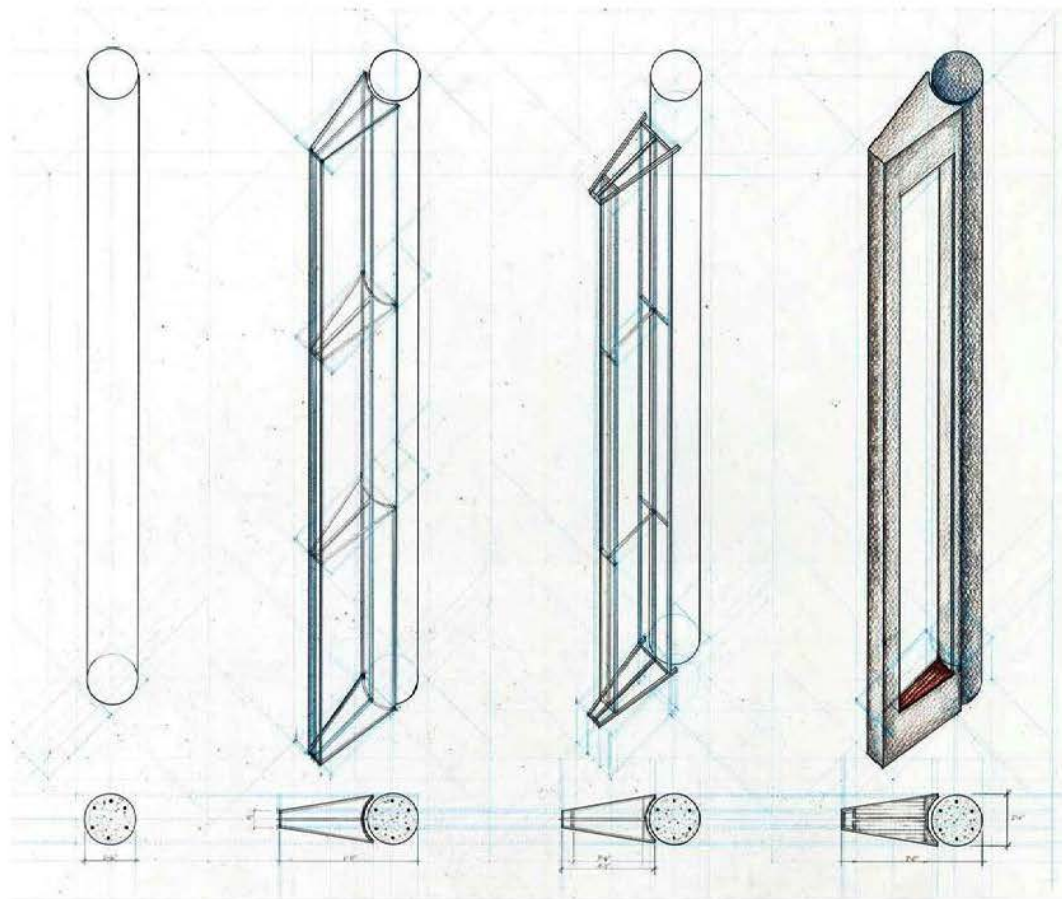




Column Detail - an implied movement

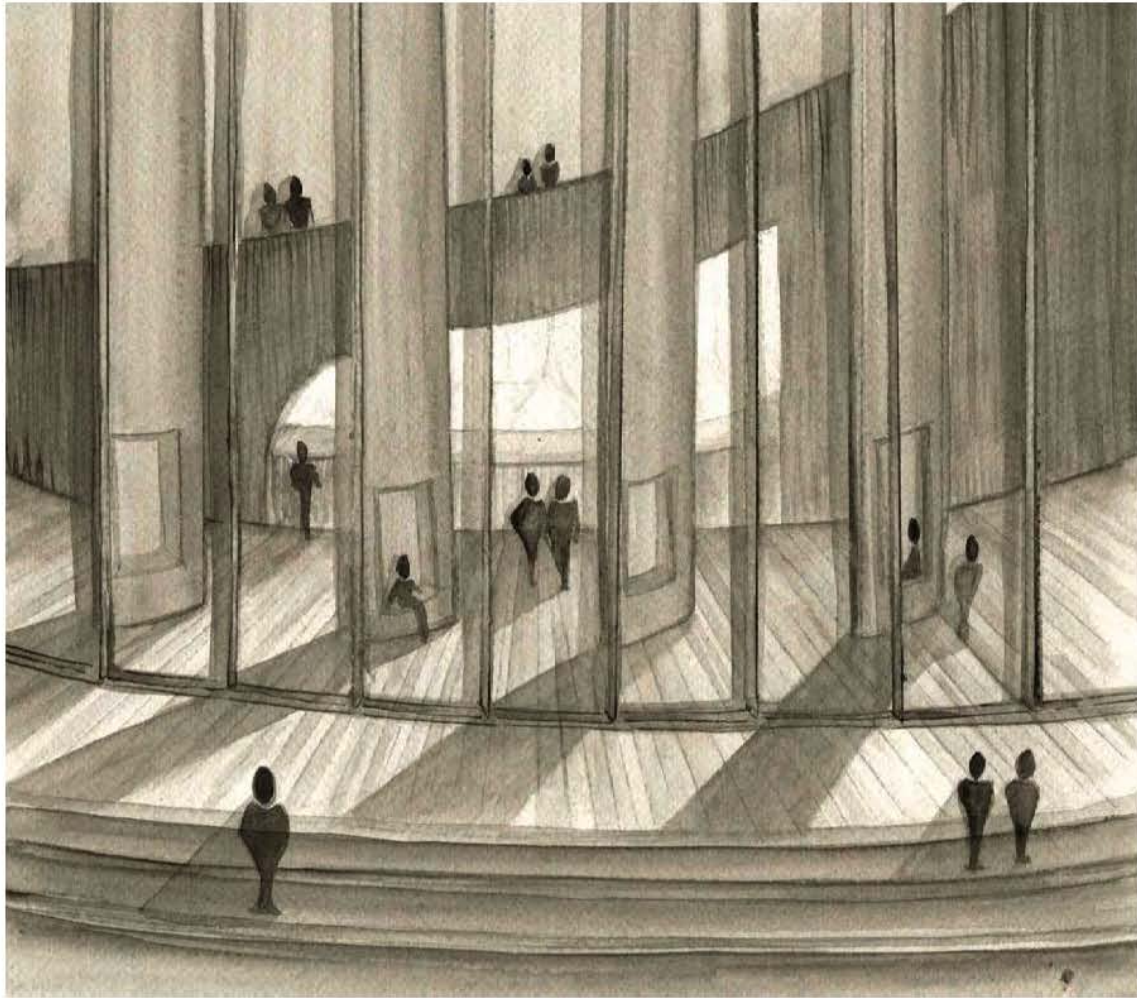
The column is a transitional element that embodies both the static and dynamic. It is made up of two parts, the static element; the structural circular column which remains stationary within the space and the dynamic element; the hollow fin attached to the structural column on ball bearings which allow movement around the structural column.

Together these two elements create a component of the building that acts as a transitional element between the static and dynamic. The column also serves multiple purpose through its design. It acts as a support structure for the roof; as a seat and display space within the fin portion of the design and lastly, as a shading device.

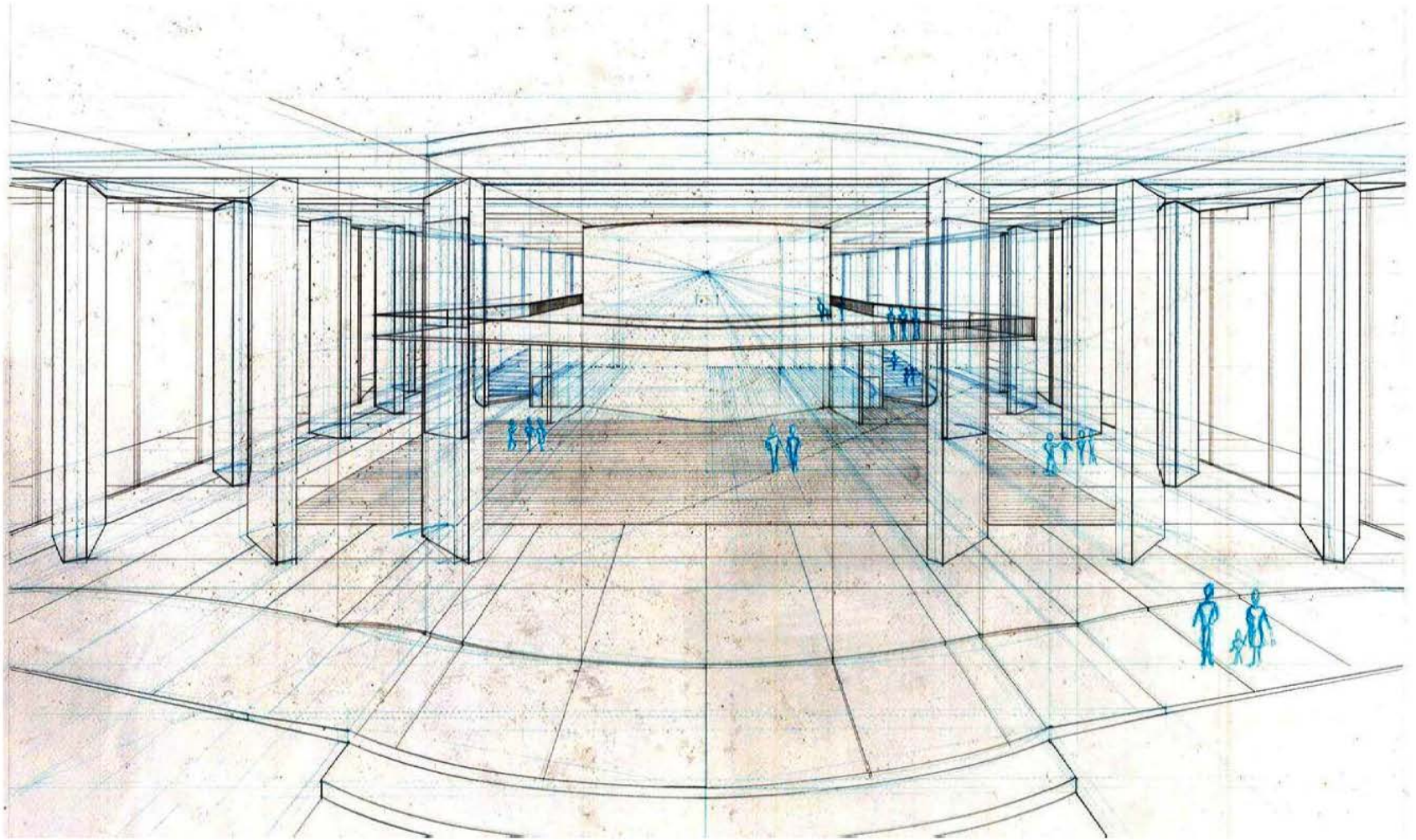




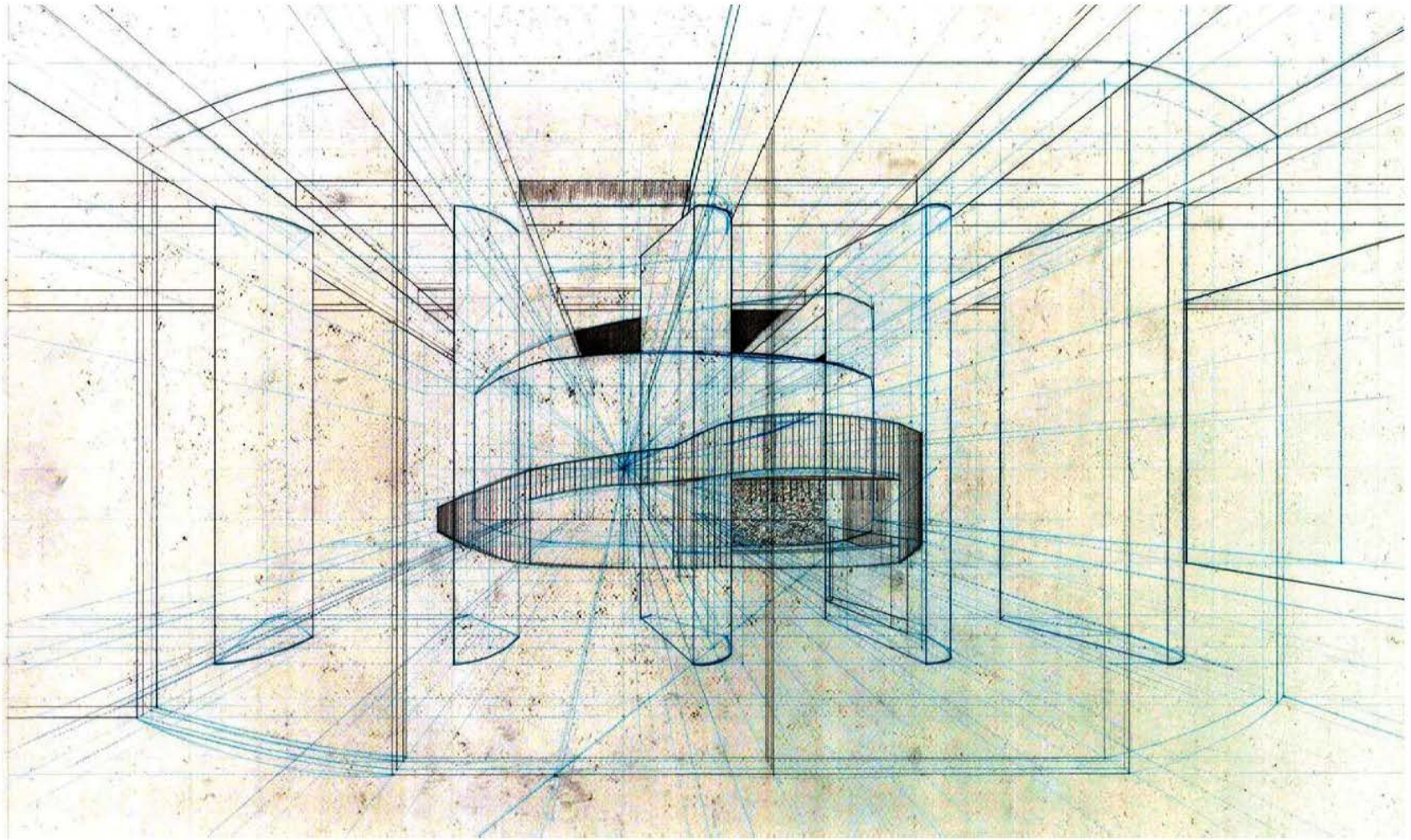
Side entrance looking into lobby space and wine bar.



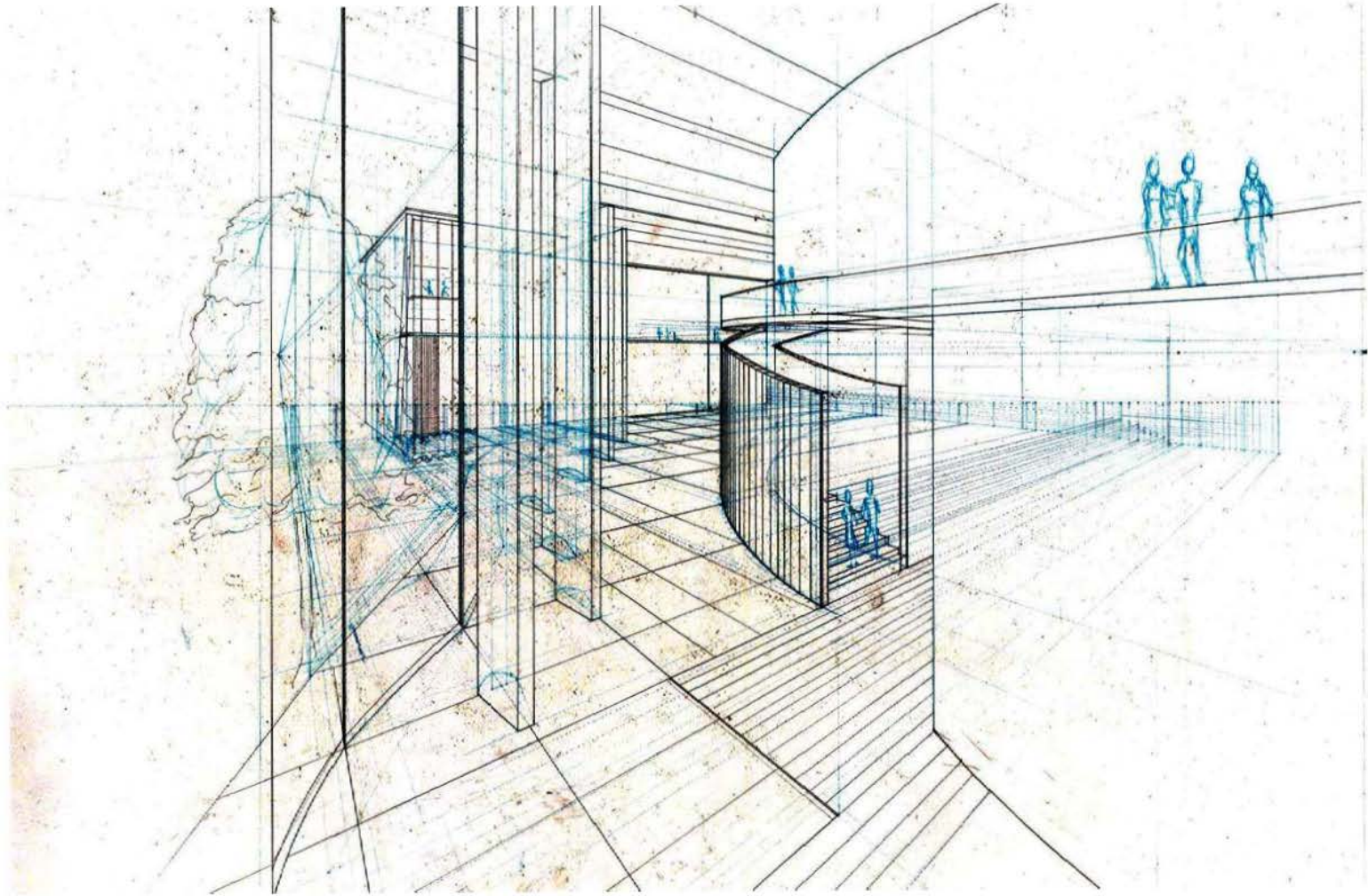
Main entrance looking into the lobby space.



Wine bar under spiral staircase in lobby.



Spiral staircase in main lobby. One
curvilinear line wrapping around another.

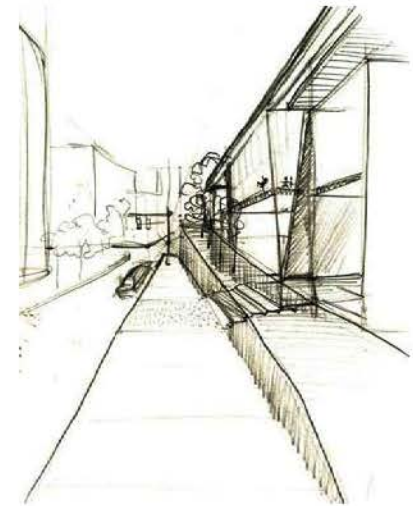


A Static space aims to be passive, tranquil and defined.

In order to achieve a successful dynamic and static space a balanced harmony has to be created between the two. As the dynamic space is represented through the curvilinear lines of the theater, the rectilinear composed space of the dance studios suggest a more static architecture.

The studios provide a tranquil, passive space, where the dancers become the focus of the space. In this more static environment the dancers become the active part of the space.

"Dance creates space out of movement." - Siegfried Giedon

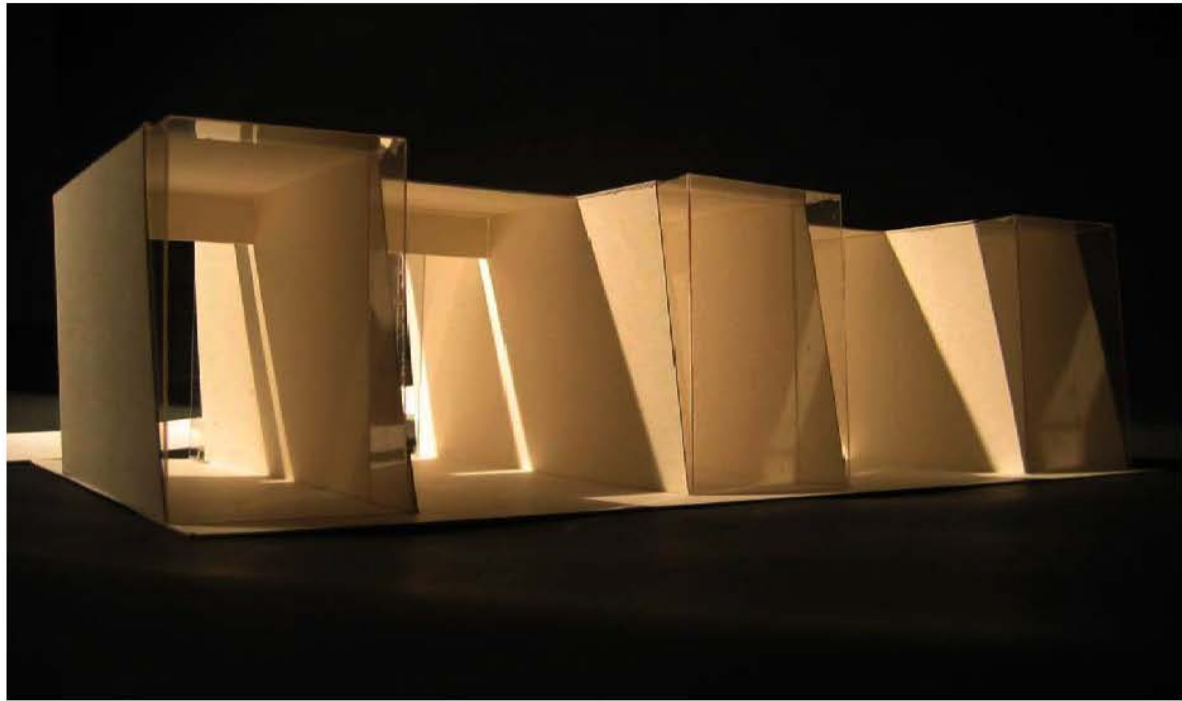


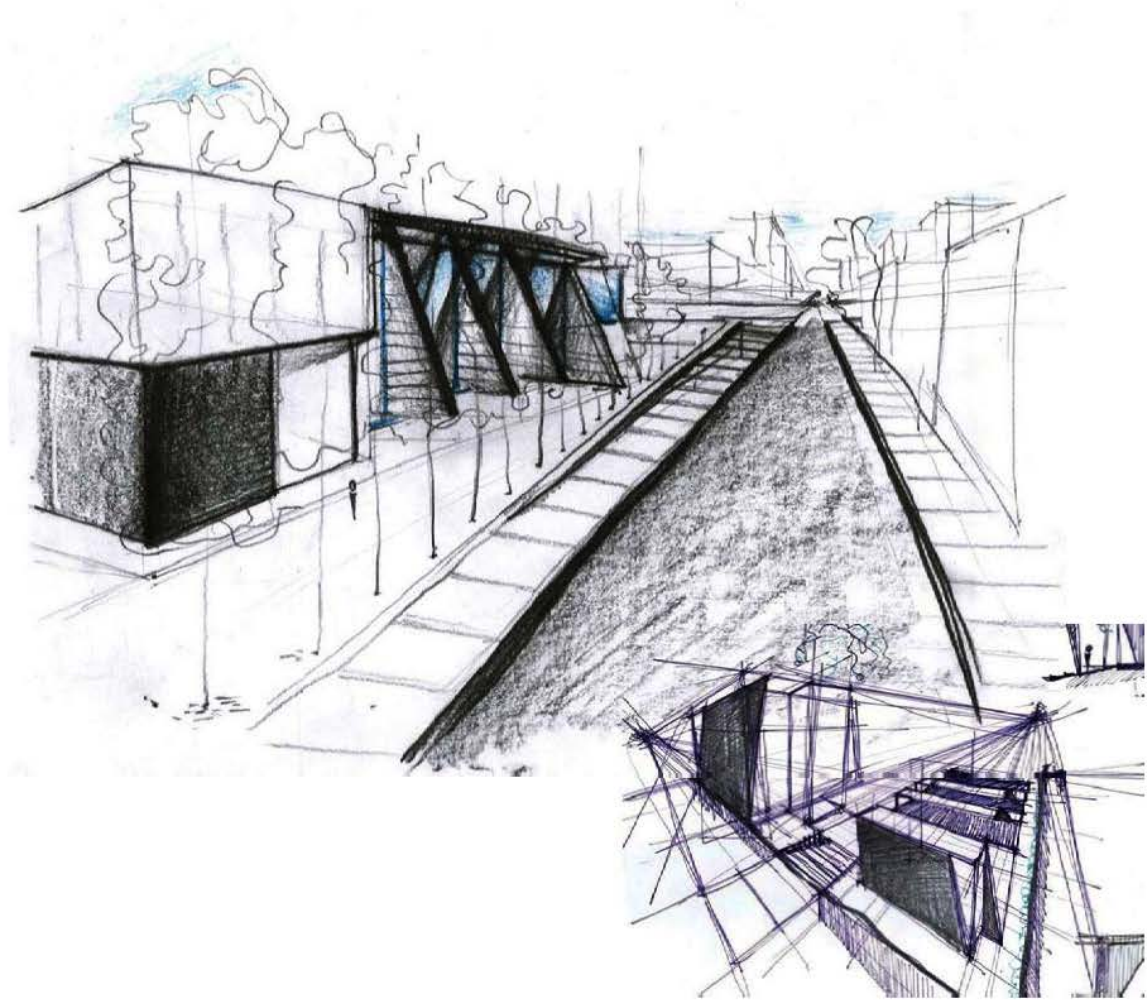
static space



Initial study model on how a linear form can create a static space through rhythm and repetition.







The dance studios become elevated, framed boxes with a translucent glass curtain separating the dancers from the noise of the public street.

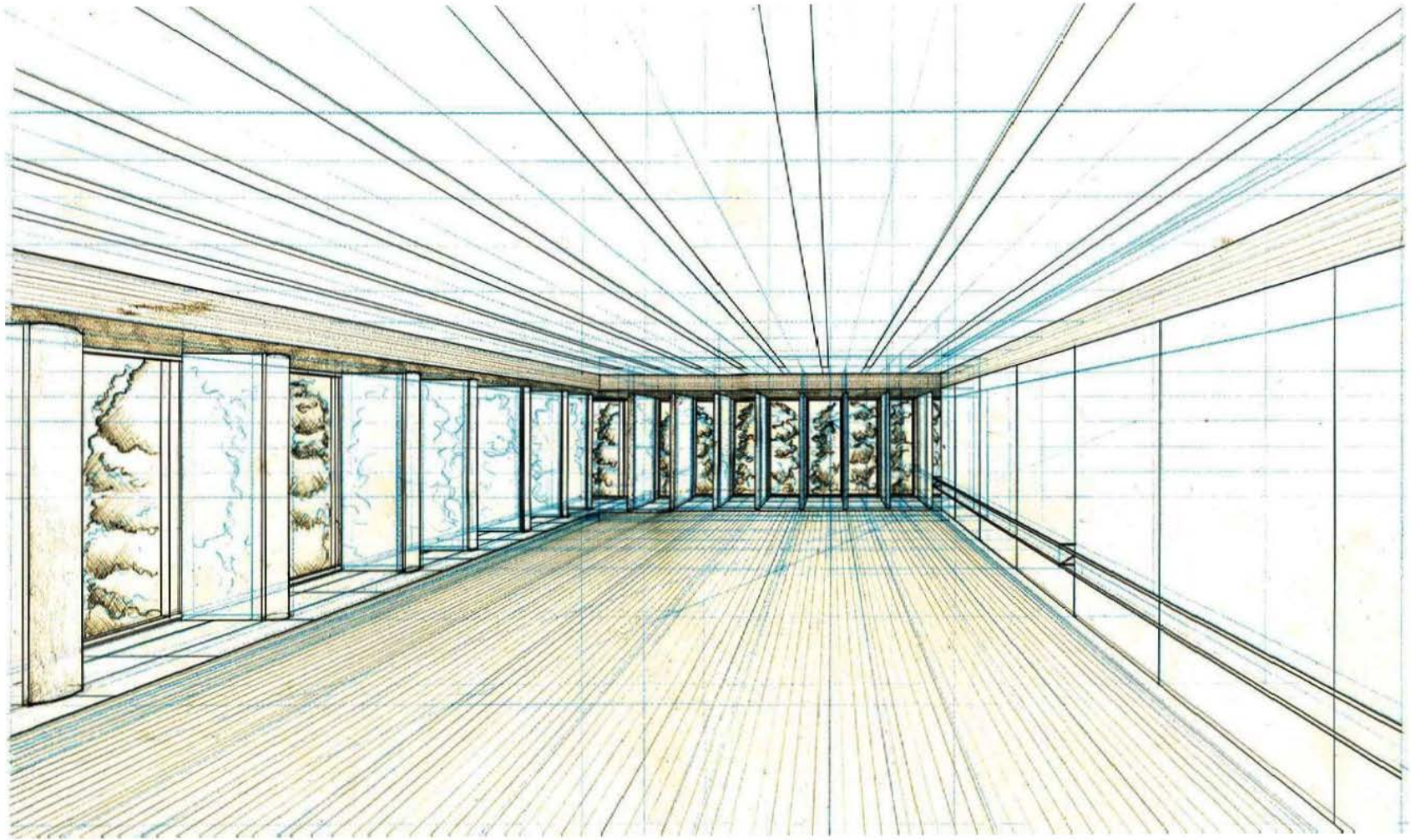
The elevation demonstrates a separation and hierarchy of space between the studio spaces and the amenity spaces. Displaying rhythm and strengthening the purposes of each space.

The static spaces come to life with the silhouette of the dancers. The architecture of the dance studios is an expression of a quiet, removed space. The silhouettes of the dancers become an active element of the building's facade.

The silhouettes engage people walking along the perimeter of the studios by allowing glimpses of the dancers through framed, translucent panels, without disrupting the solitude of dancers studios.



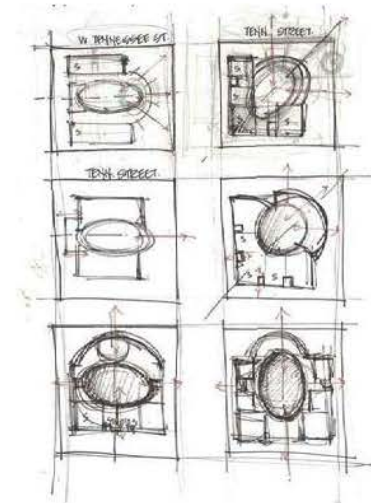
Corner dance studio, the largest of the five studio spaces.



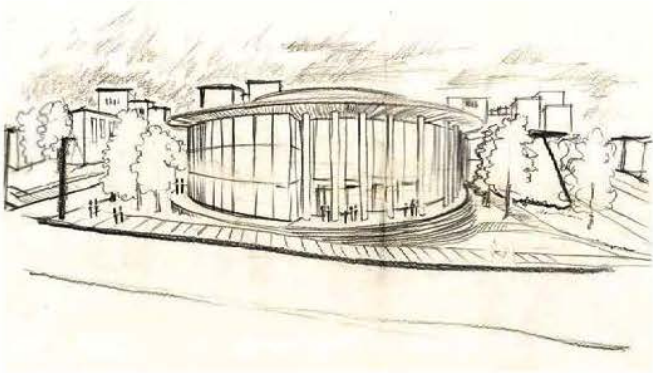
The site for this project is located in Tallahassee, Florida. The city is home to two major universities, two community colleges and four high schools with no real space to appreciate and welcome the arts.

An arts center for Tallahassee could assist the city in its urban development. The art center proposes a space for educational programs and welcome the performing arts into the city.

The site is located on Tennessee Street, one of the city's busiest streets, a few blocks from downtown. This provides easy access to restaurants, bars and parking garages for pedestrians traffic between the arts center and downtown.



site



Site Map

The red building indicates the position of the arts center.

Dark grey buildings indicate the cultural buildings and current facilities for the arts.

Red line indicates the extension of downtown towards the arts center.

The green lines indicates the promenade of trees creating a path from the arts center to downtown.

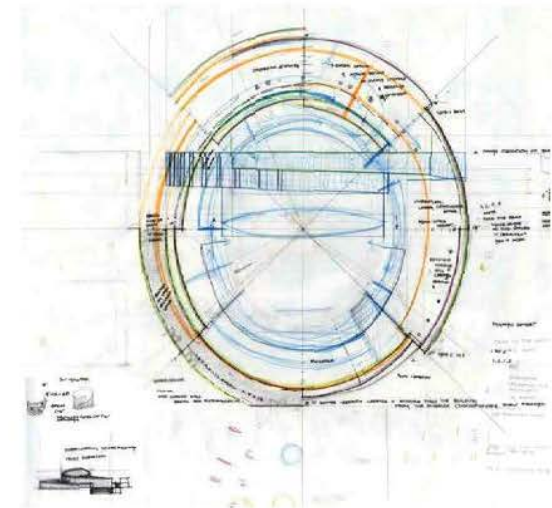


The following drawings are a sequential study of two sets of plans on how a dynamic and static space can be achieved and enhanced for the design of the Arts Center.

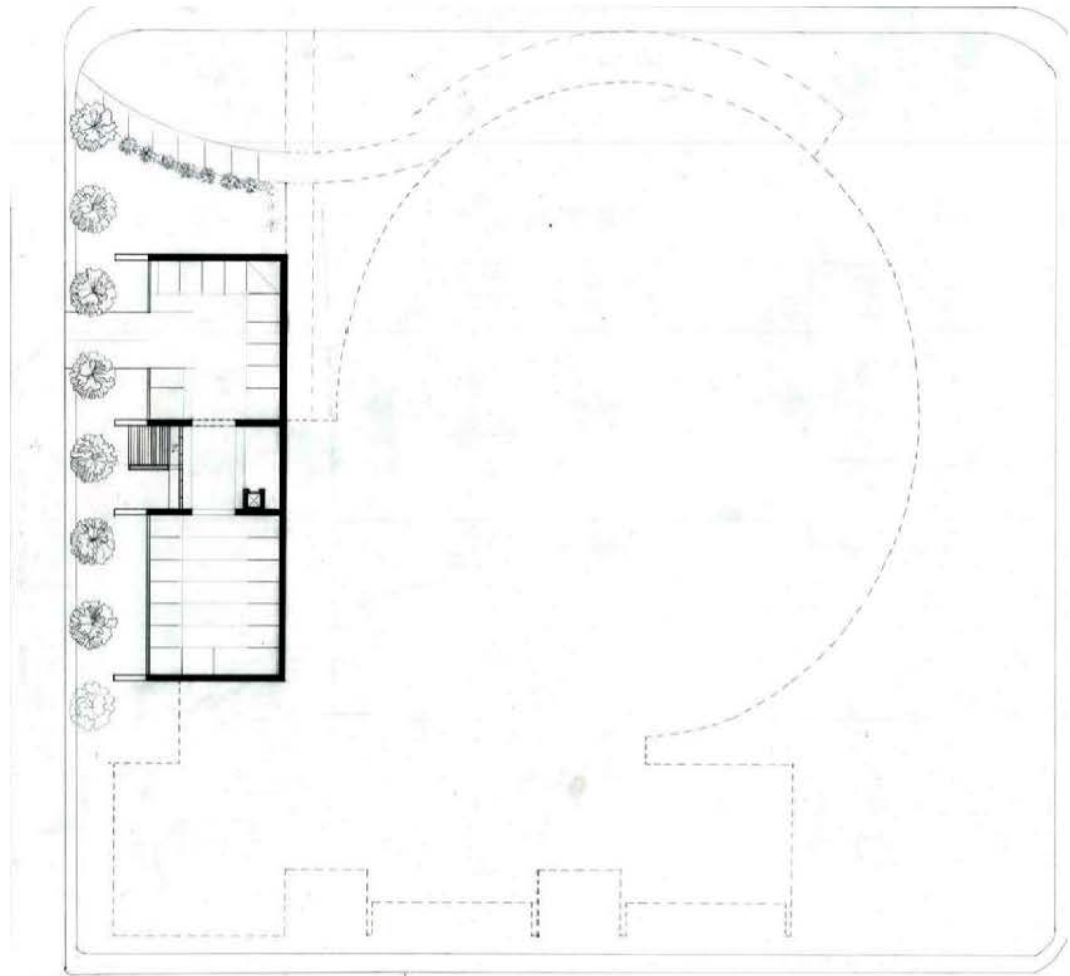
The static spaces in both studies are composed of the studio spaces, which remain consistent between the two plans.

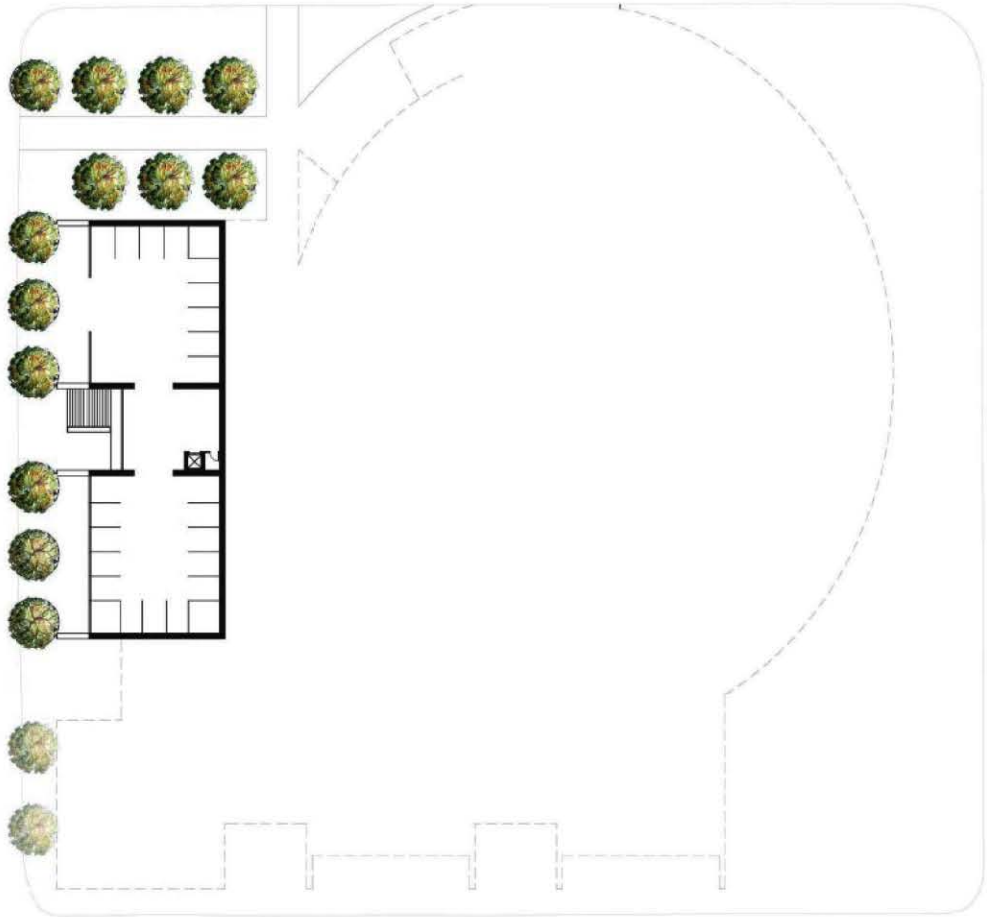
The dynamic space, which consists of the theater space is considered the primary focus of study between these two plans.

In both studies, the curtain wall, columns and roof structure become the primary focus of how a dynamic space can be achieved. The choreographed placement of these elements explore how they can be altered and what kind of dynamic space can be designed from it as a result.



plans





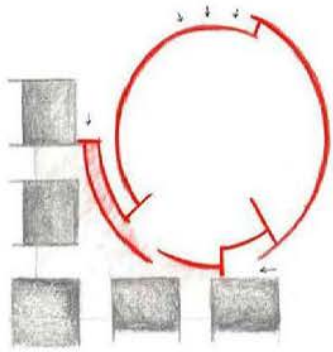
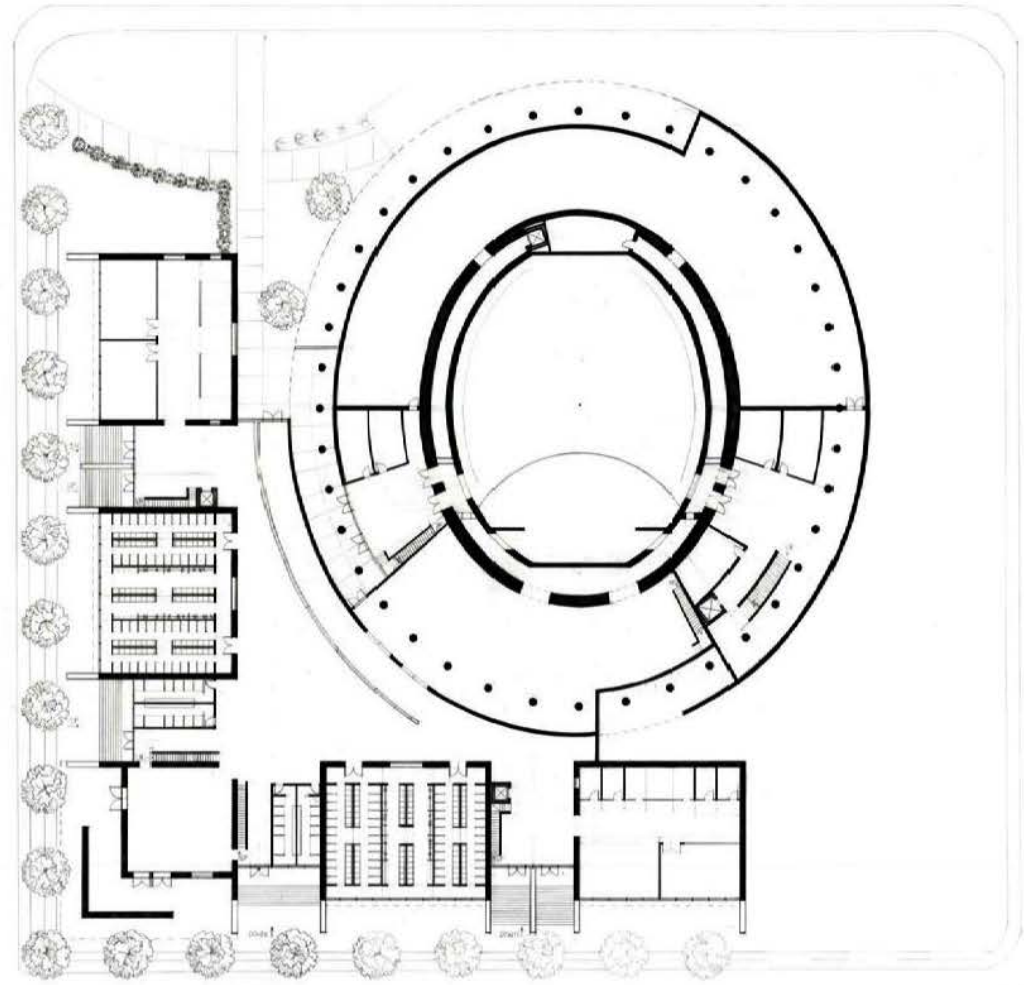


Diagram of curtain wall



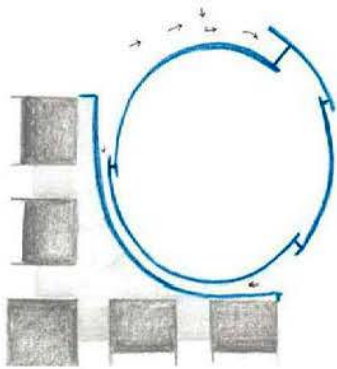
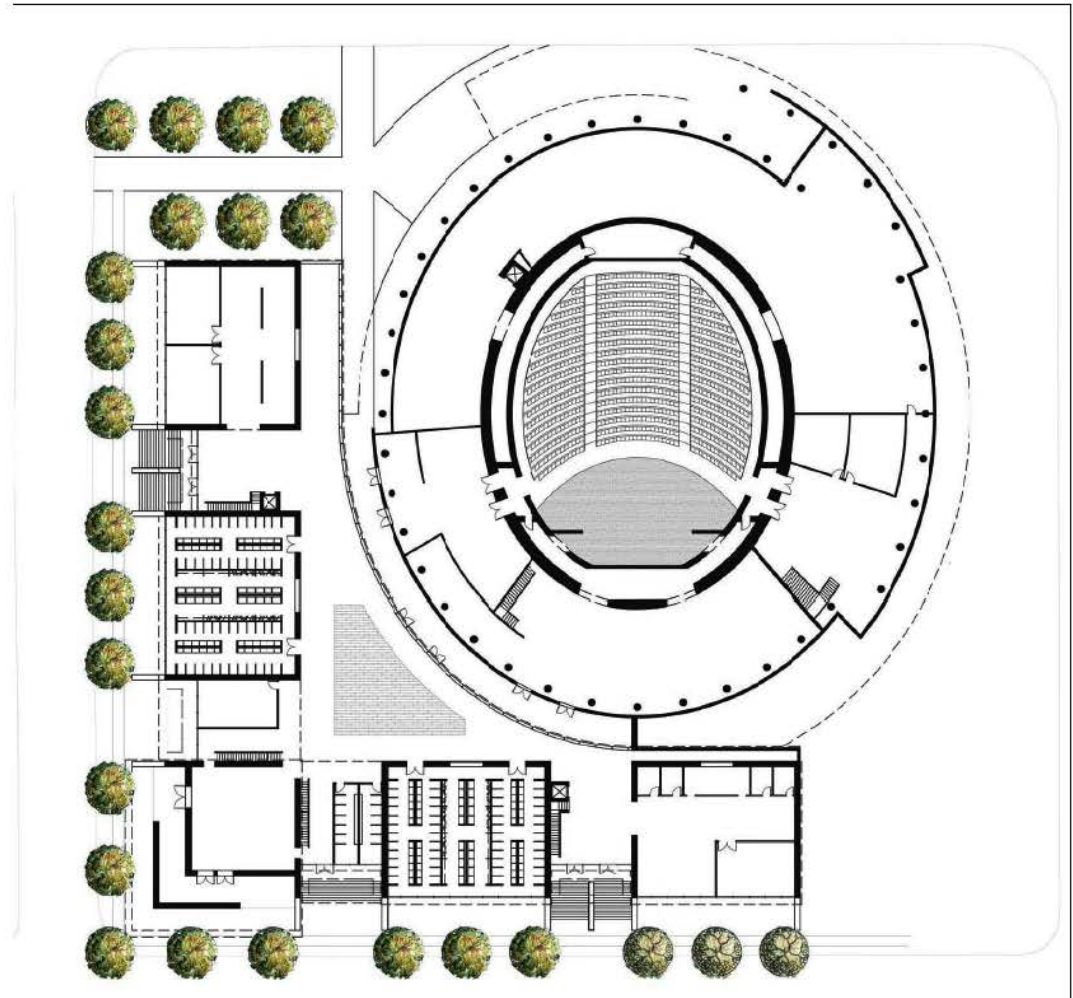


Diagram of curtain wall



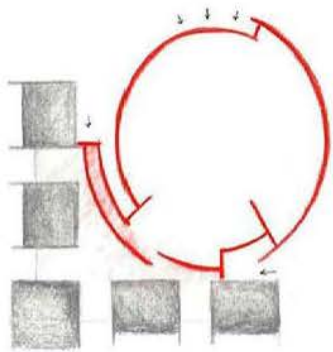
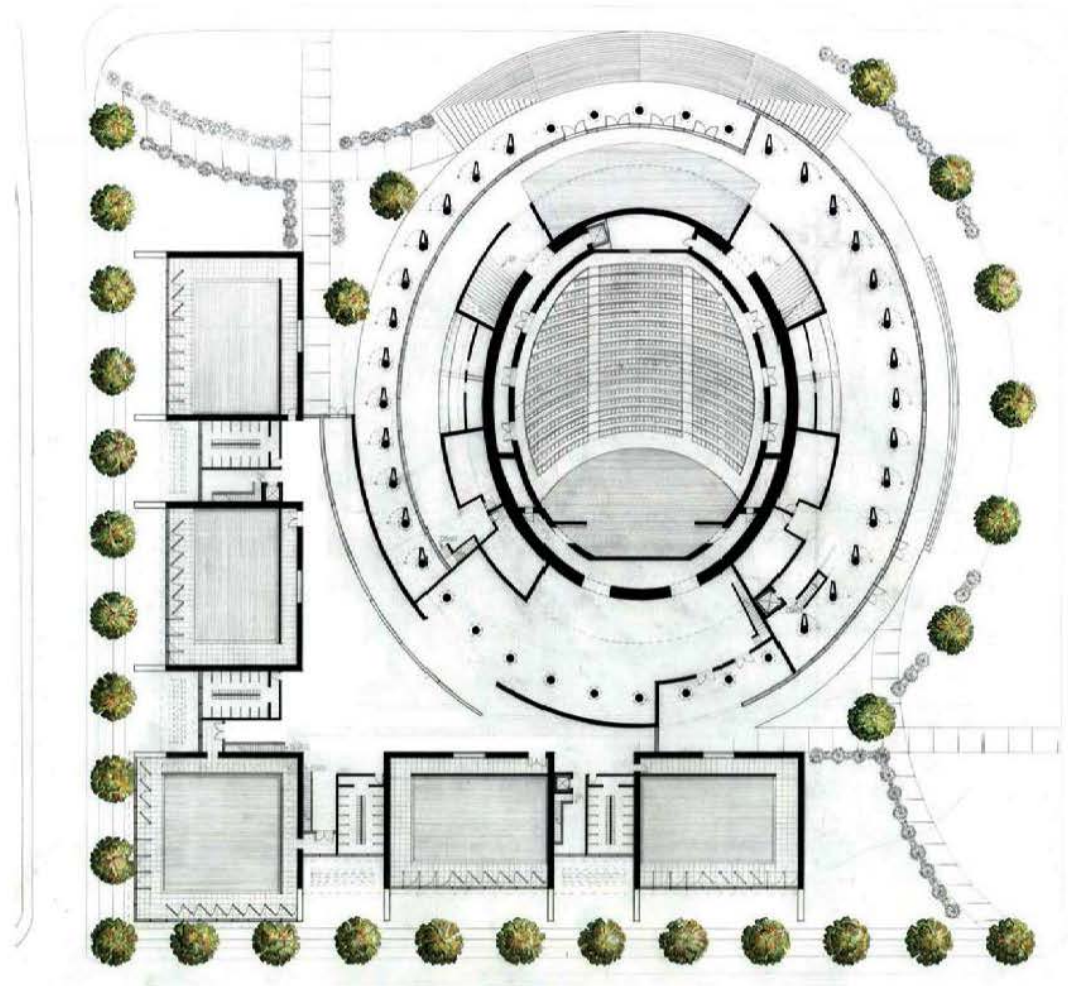


Diagram of curtain wall



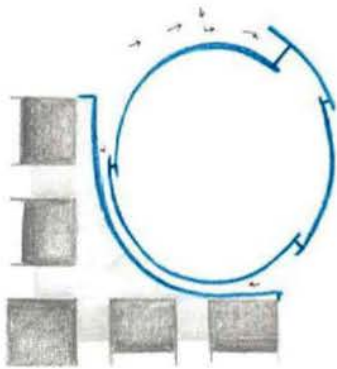
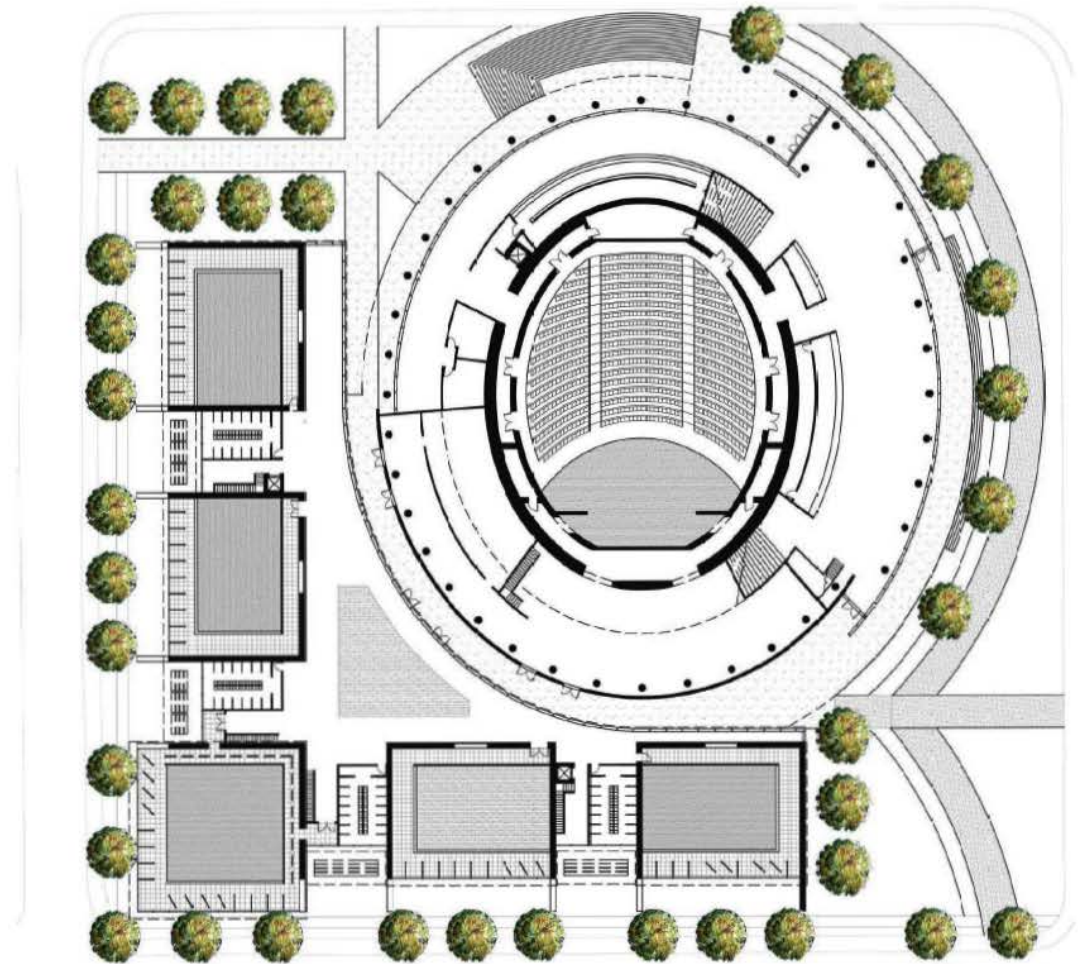


Diagram of curtain wall



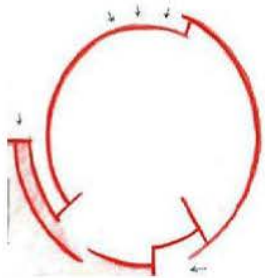
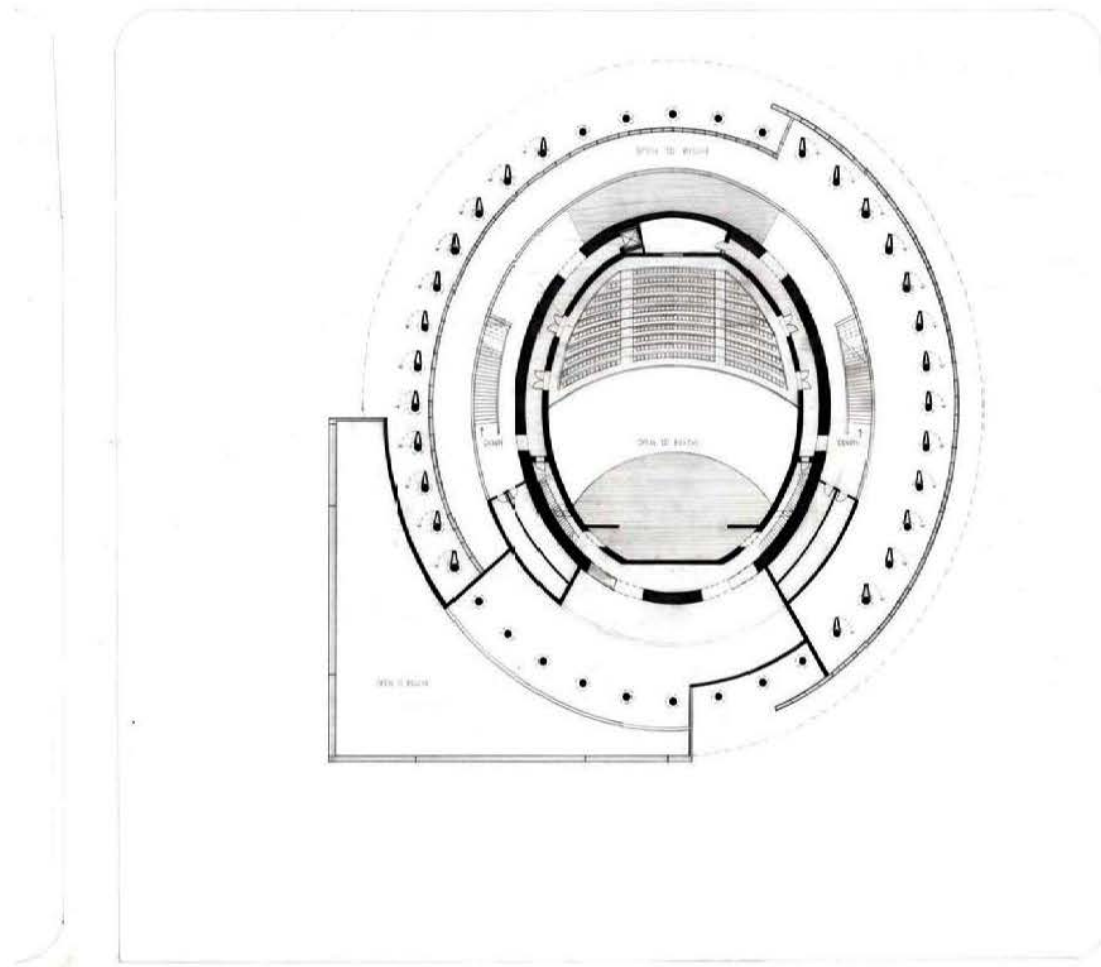


Diagram of curtain wall



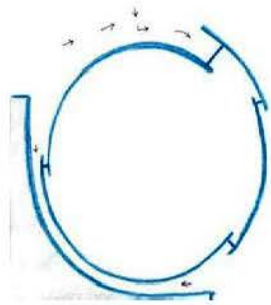
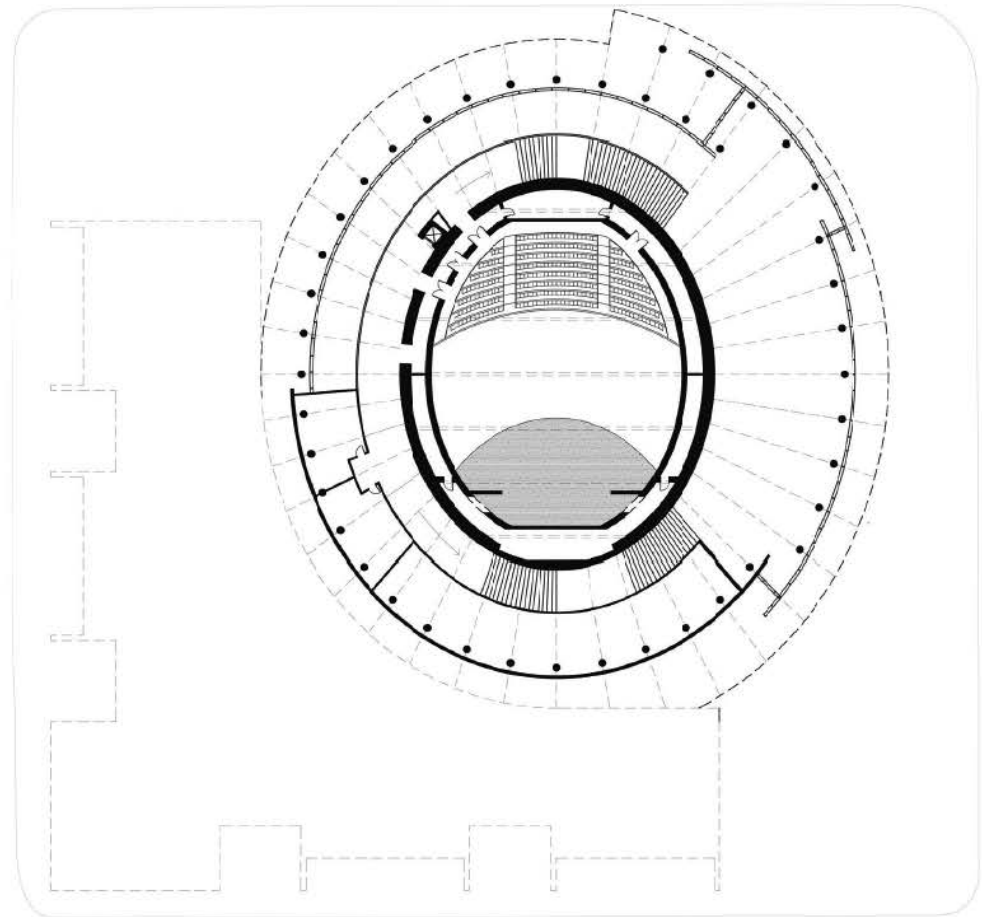
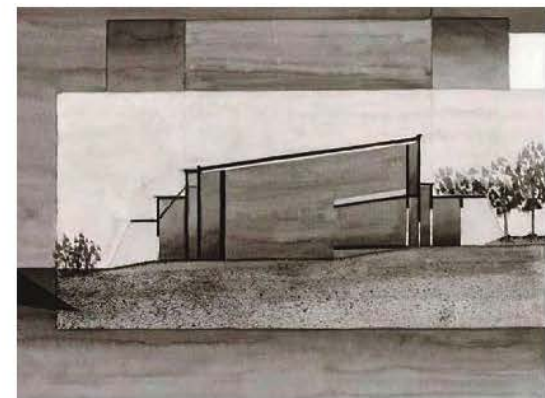


Diagram of curtain wall



To gain a better understanding of the interaction between dynamic and static spaces, a series of elevations and sections were drawn.

The main elements of analysis between the drawings consisted of the curtain wall, columns and roof structure. A reflection of the elevations and sections from Set A prompted a deeper exploration of how a dynamic space can be achieved through the movement of the horizontal and vertical planes. Through the subtle alterations of these planes, a more dynamic space was developed, which can be seen in the elevations and sections of Set B.



elevations + sections

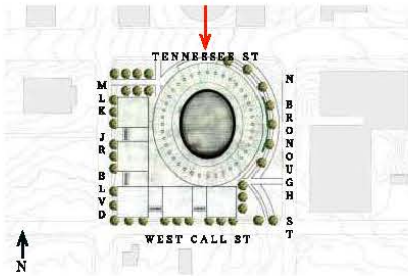
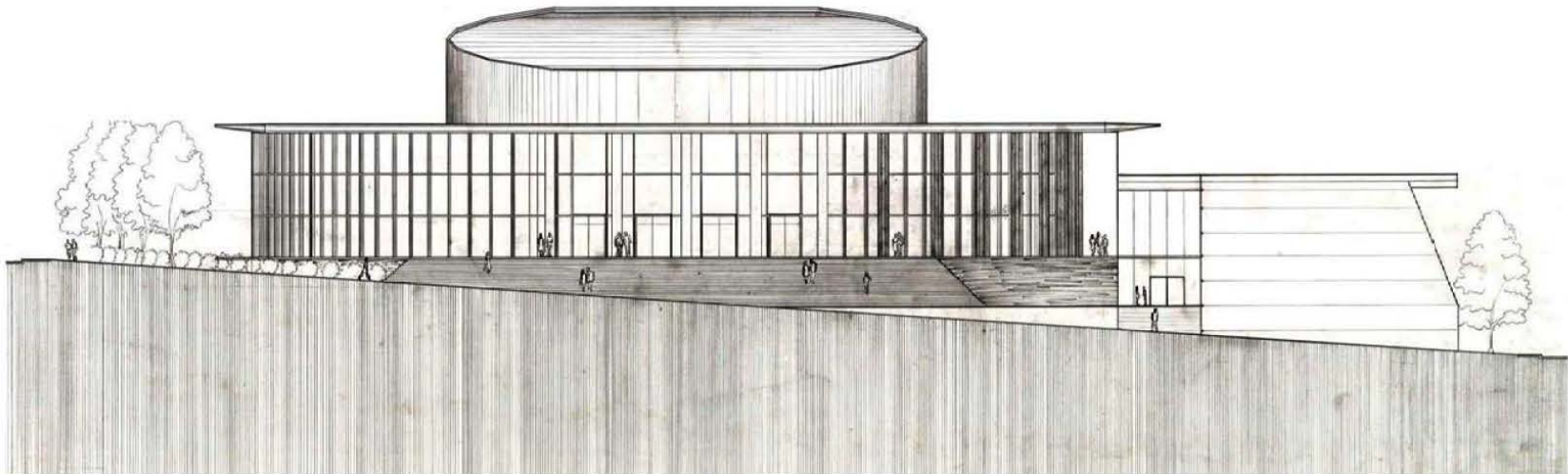


Diagram of Roof Line



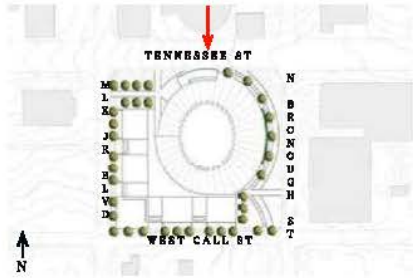
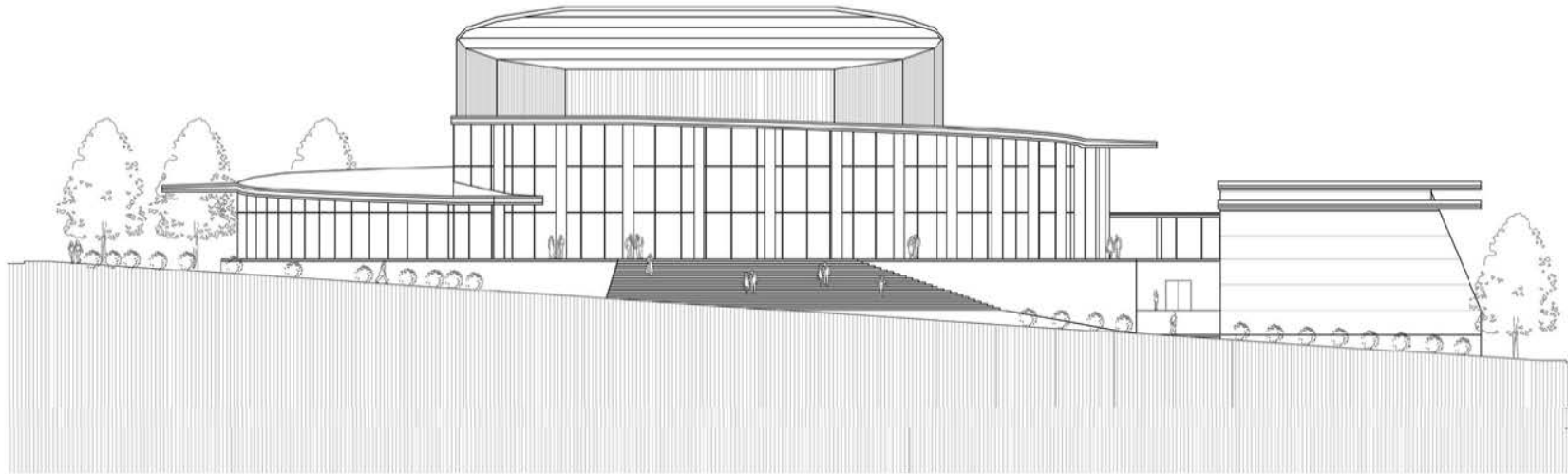
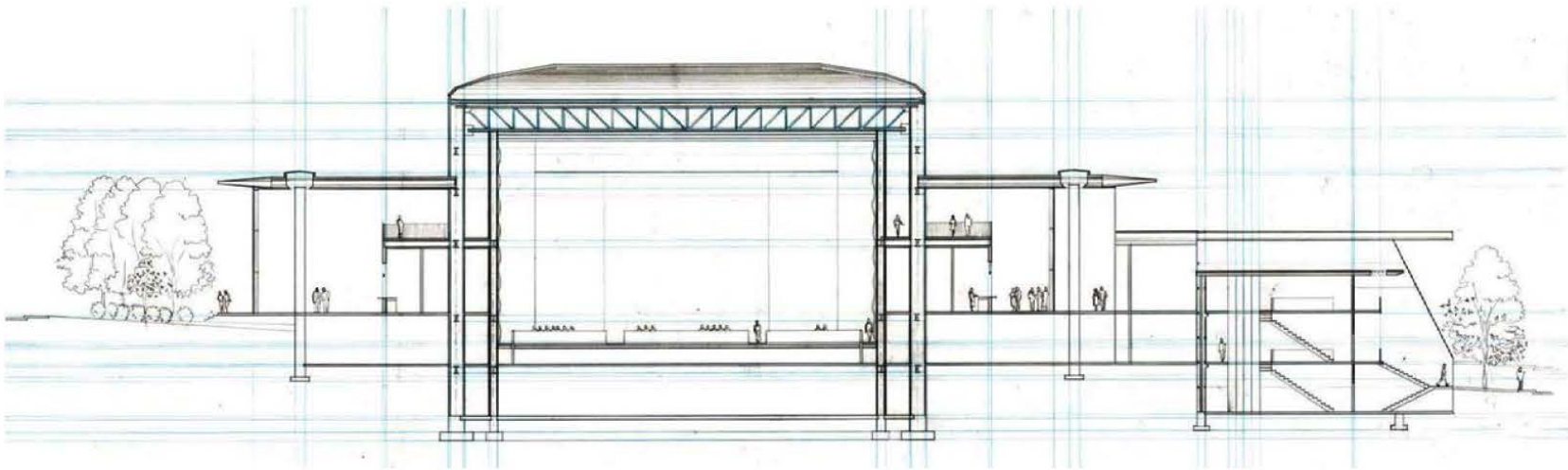
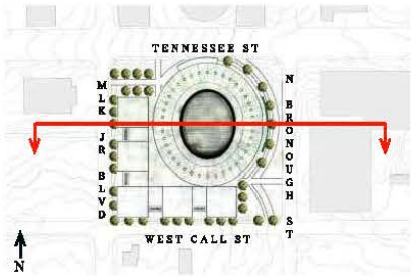
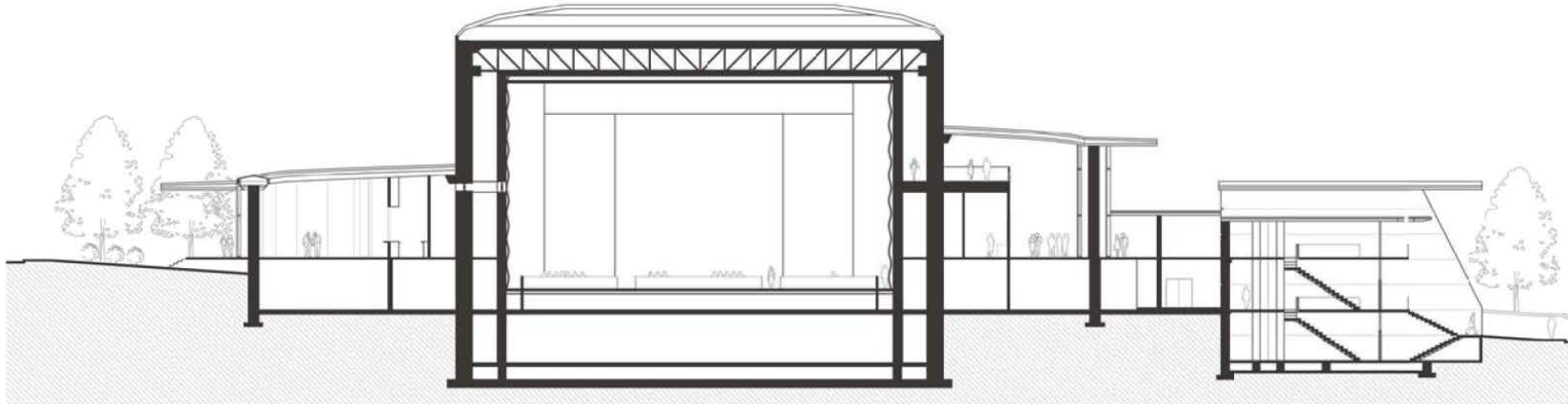
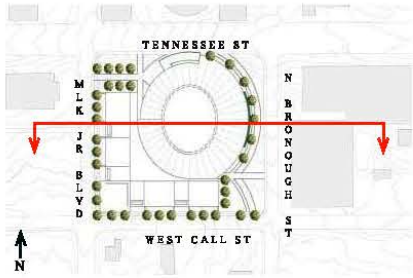


Diagram of Roof Line







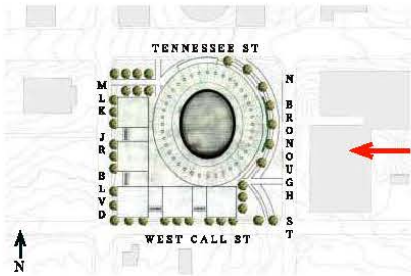
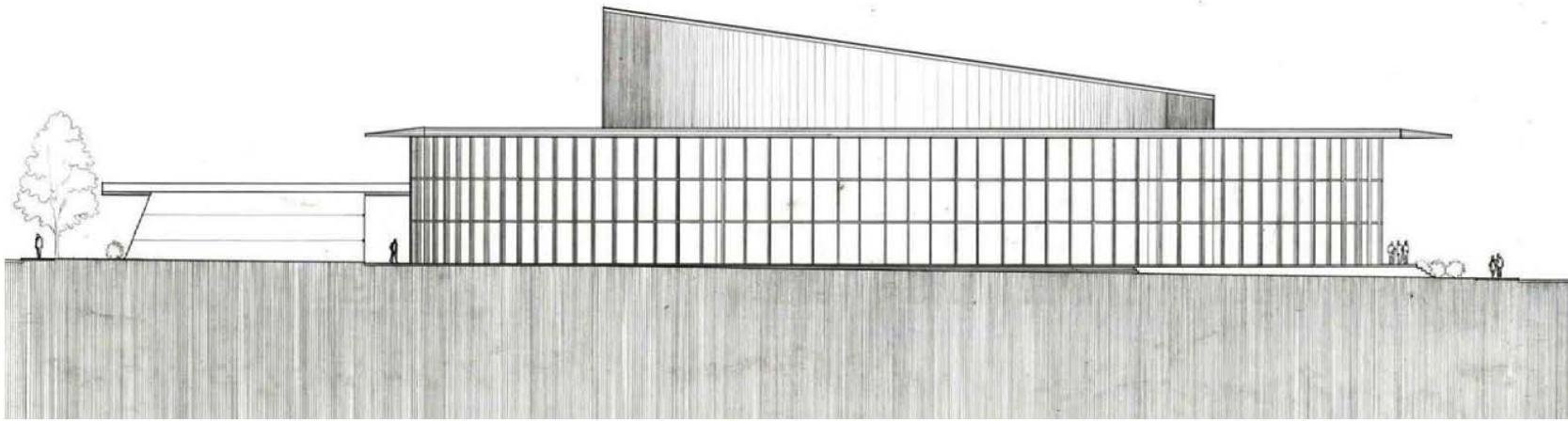


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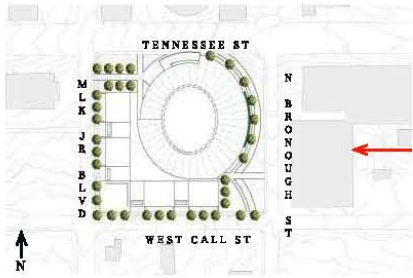
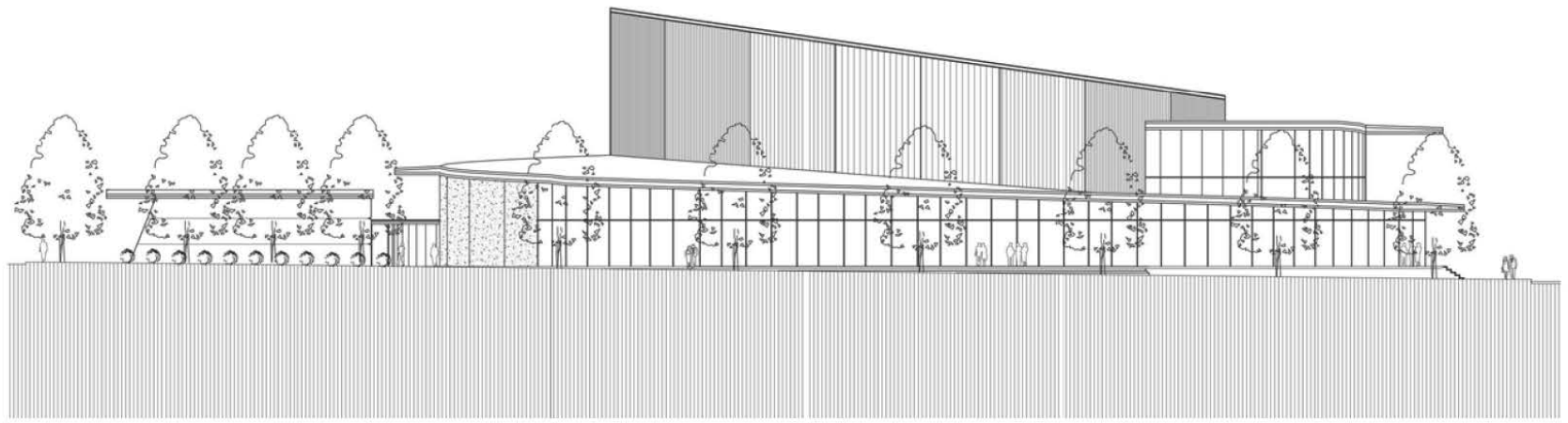
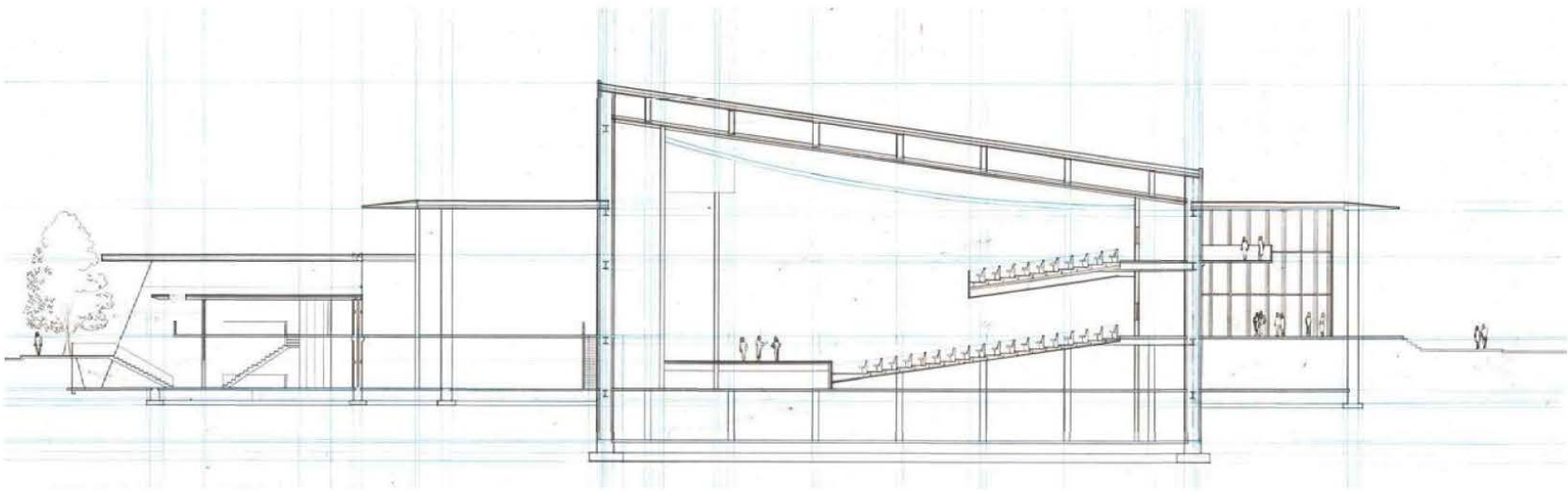
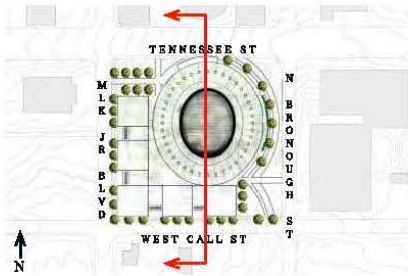
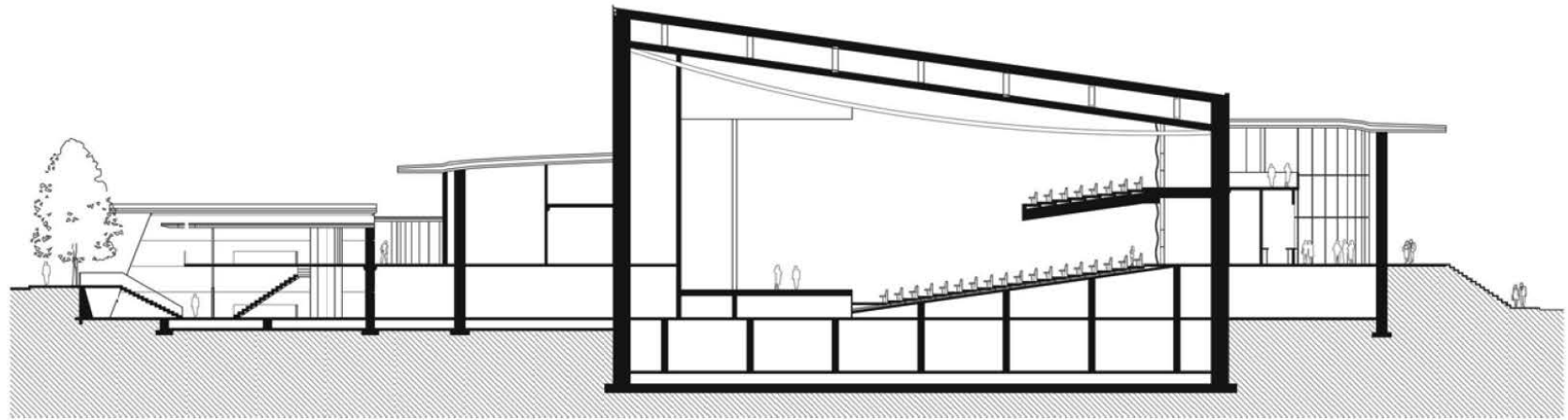
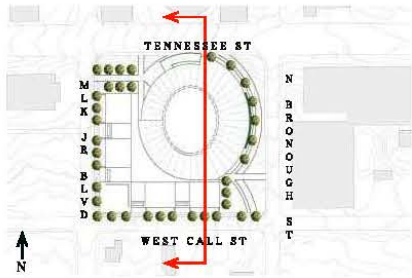


Diagram of Roof Line







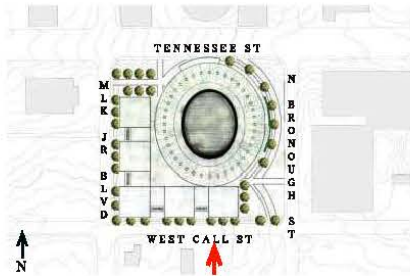
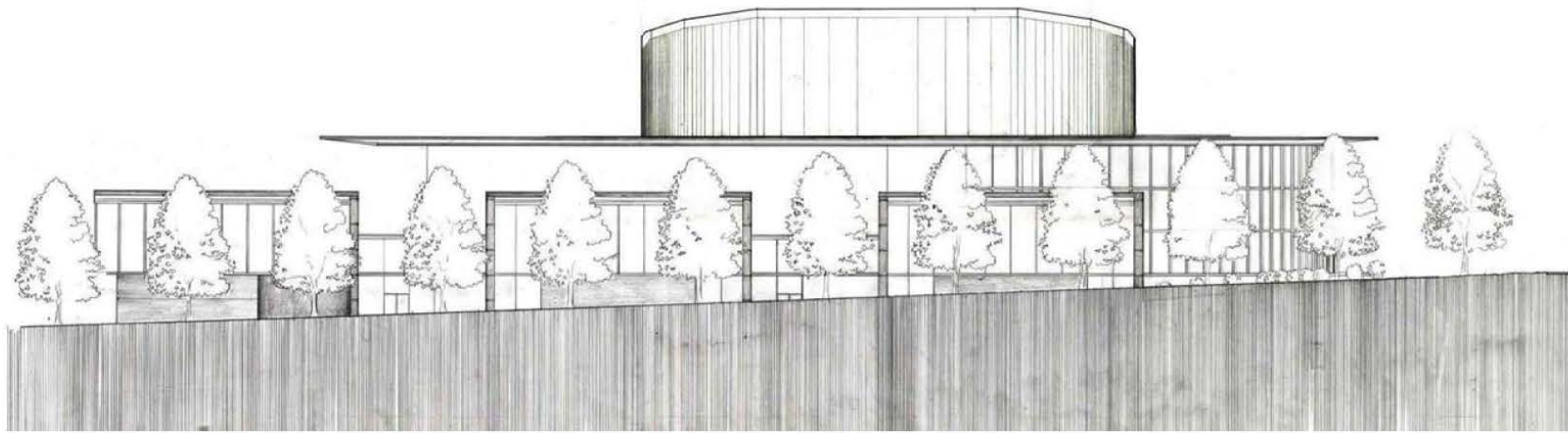


Diagram of Roof Line



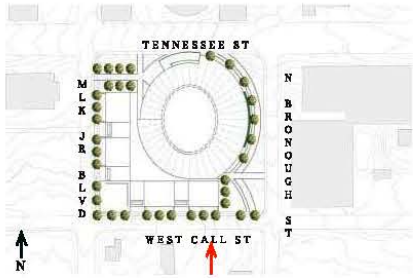
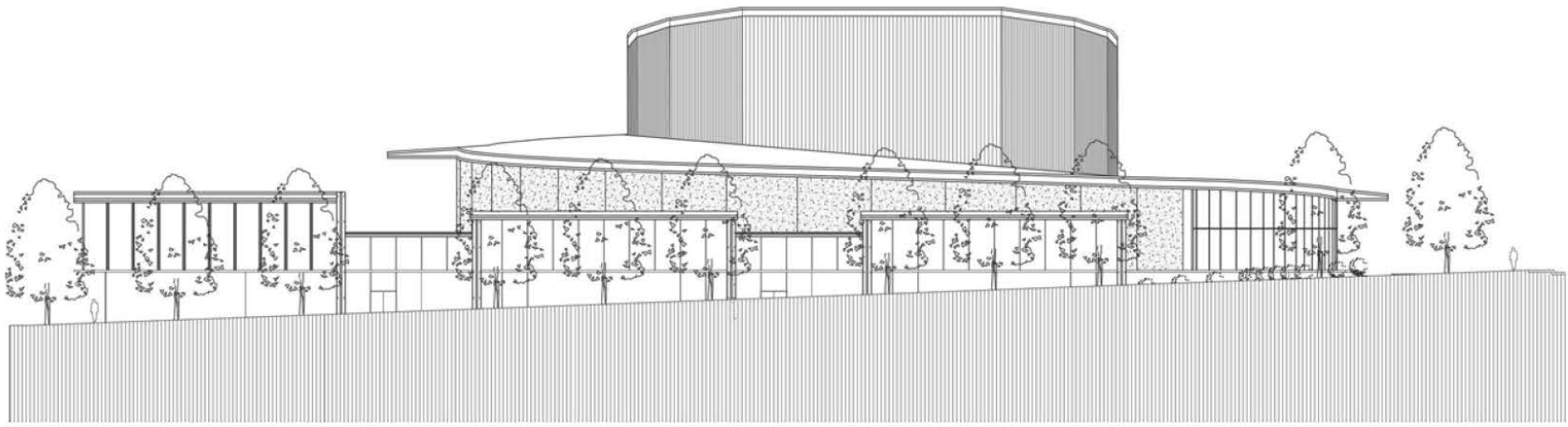
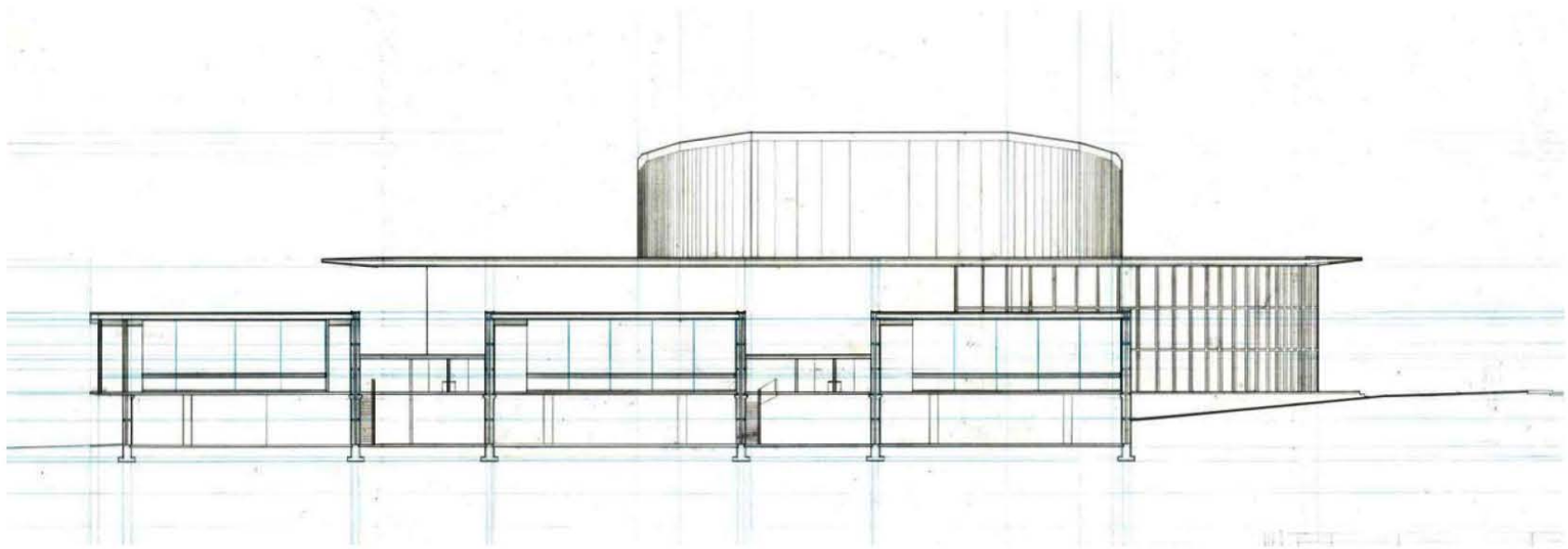
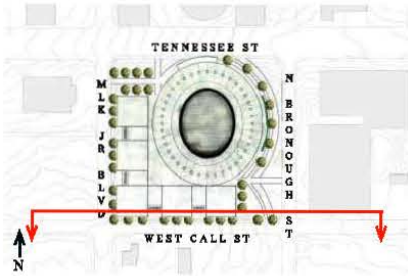
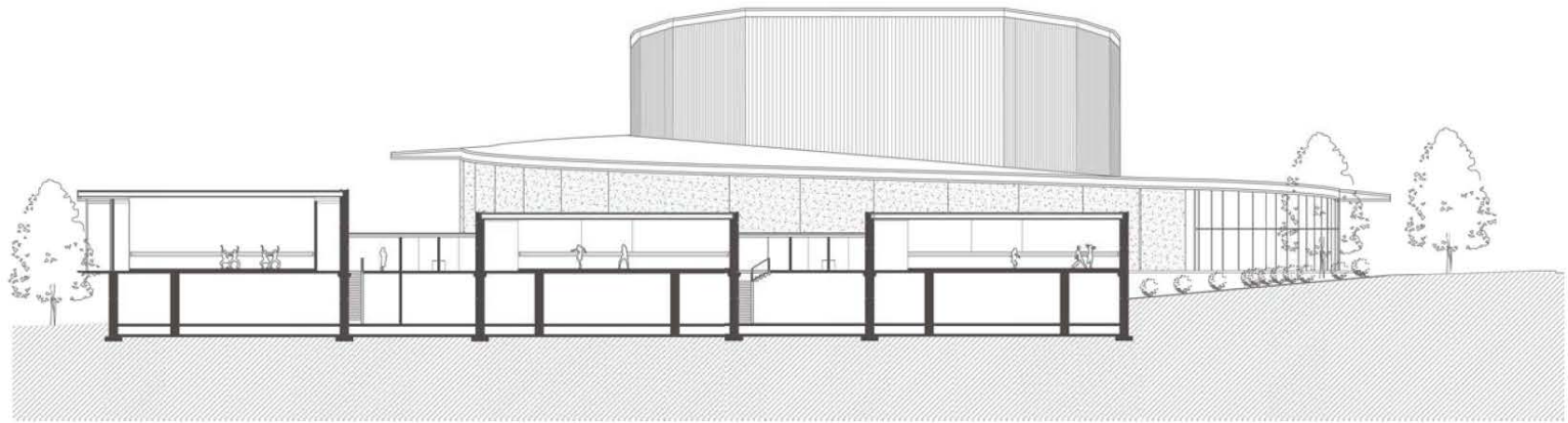
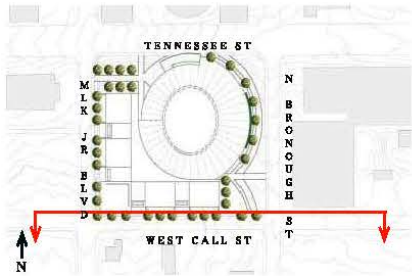


Diagram of Roof Line







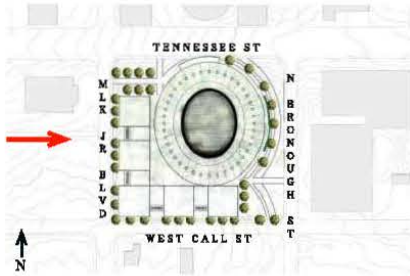
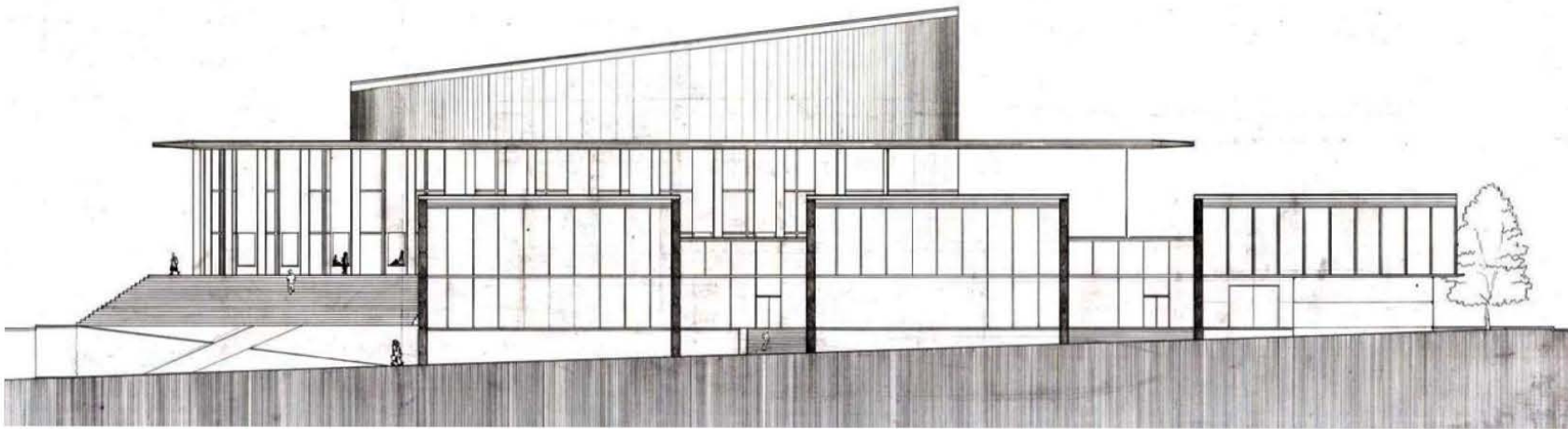


Diagram of Roof Line



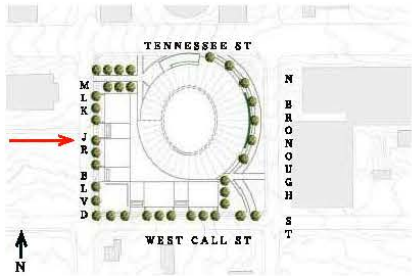
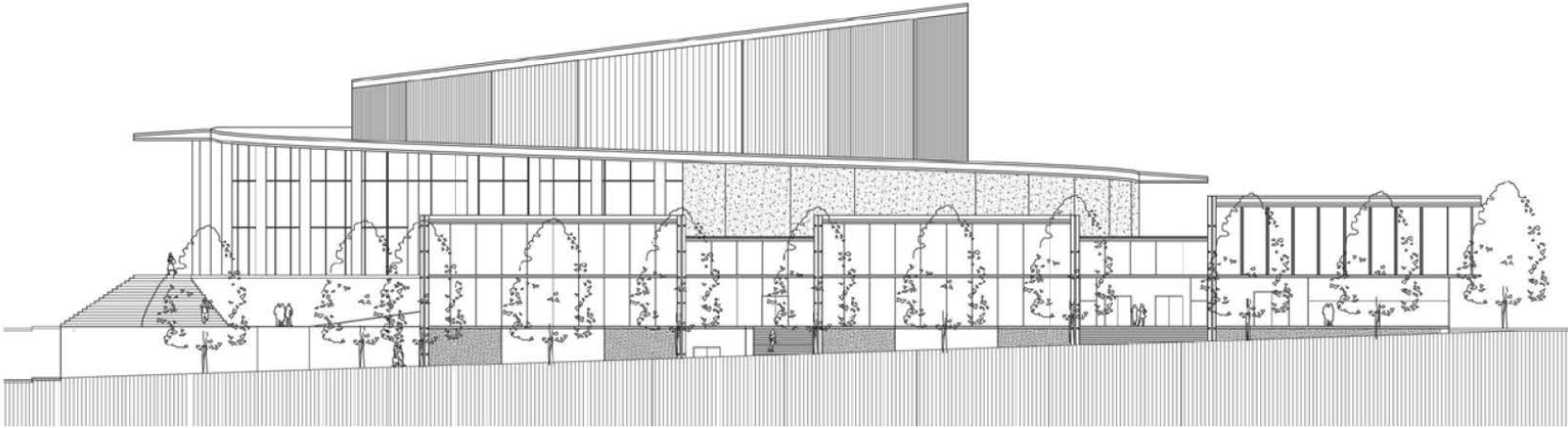
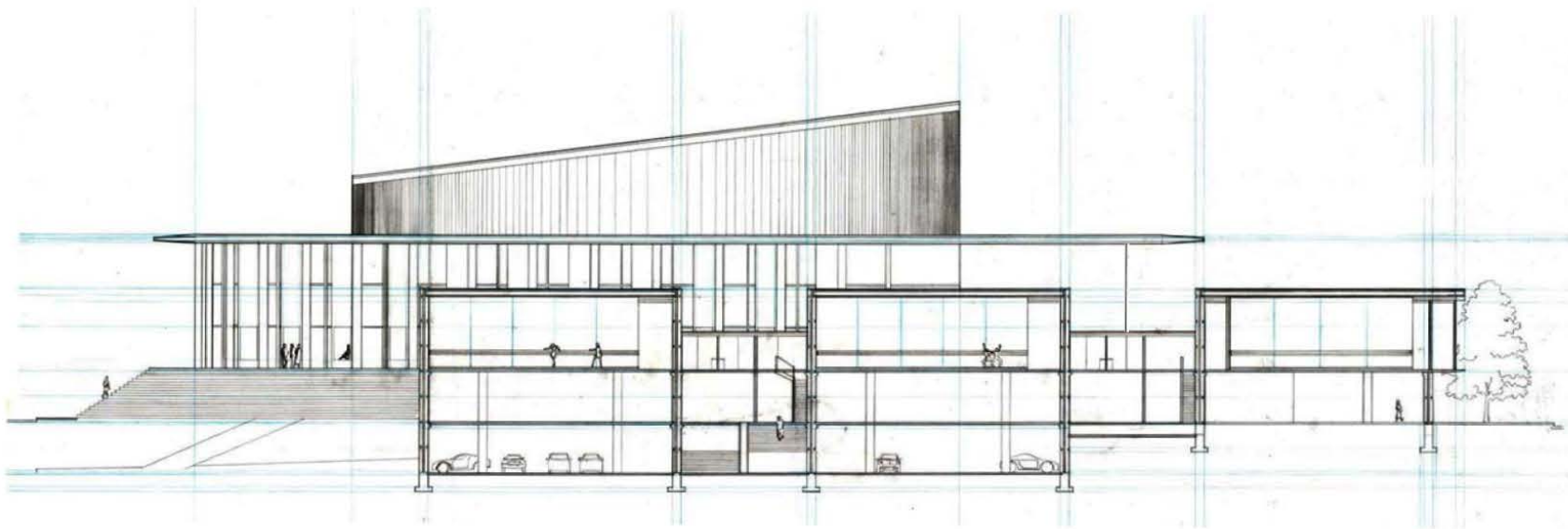
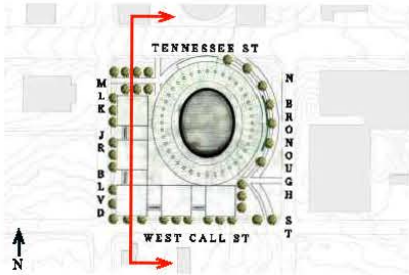
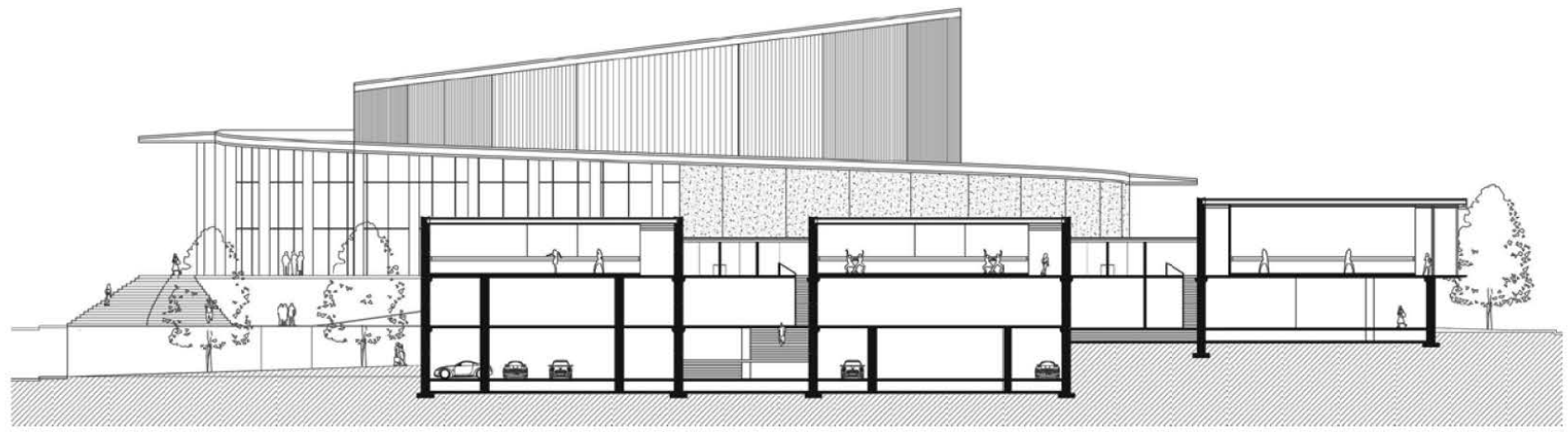
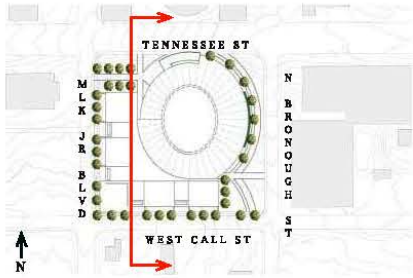


Diagram of Roof Line







An architectural design process can thrive based on the duality of dynamic and static architecture space. The dynamic suggests an intuitive, expressive, and kinetic direction of spatial development. Whereas the static tends to lead toward a precise, measured and calm sense of space.

The dynamic spaces here sought expression through a kinetic rhythm of lines drawn intuitively by hand. The static spaces were conceived through measured, constructed drawings.

The duality of dynamic and static architectural space comprised as the primary framework for the exploration of this thesis. A dynamic and static space can be achieved through the implementation of a vertical and horizontal plane and a curvilinear and rectilinear spaces. As a result, the discovery was made that with a careful juxtaposition and dialog of dynamic and static spaces a harmonic balance can be achieved as architectural from principal of an Art and Dance Center.



reflection

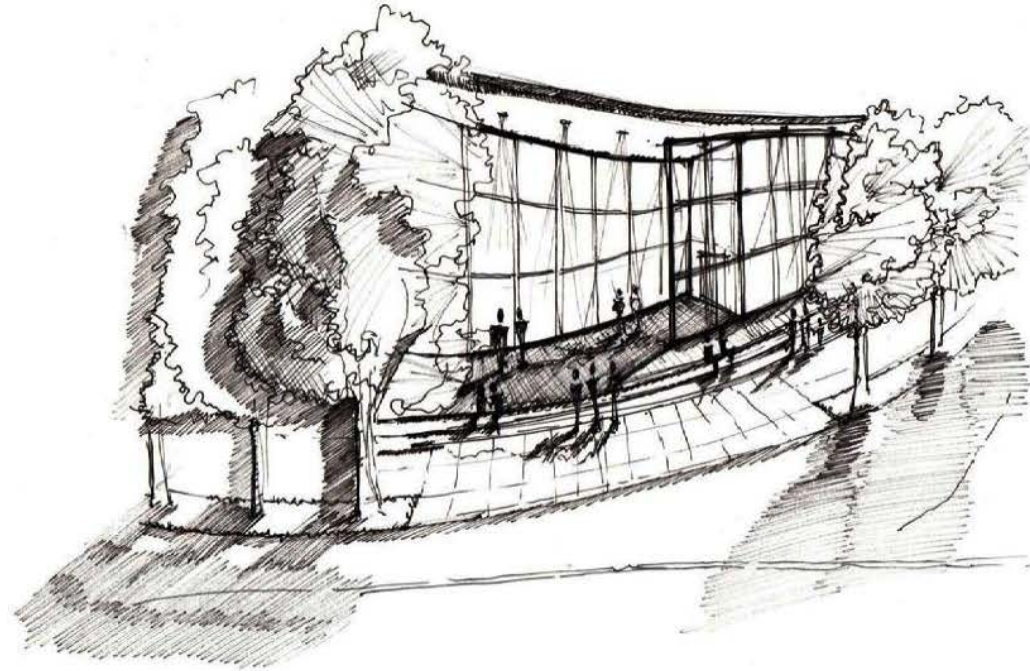
Perspective of main entry into theater from Tennessee Street.

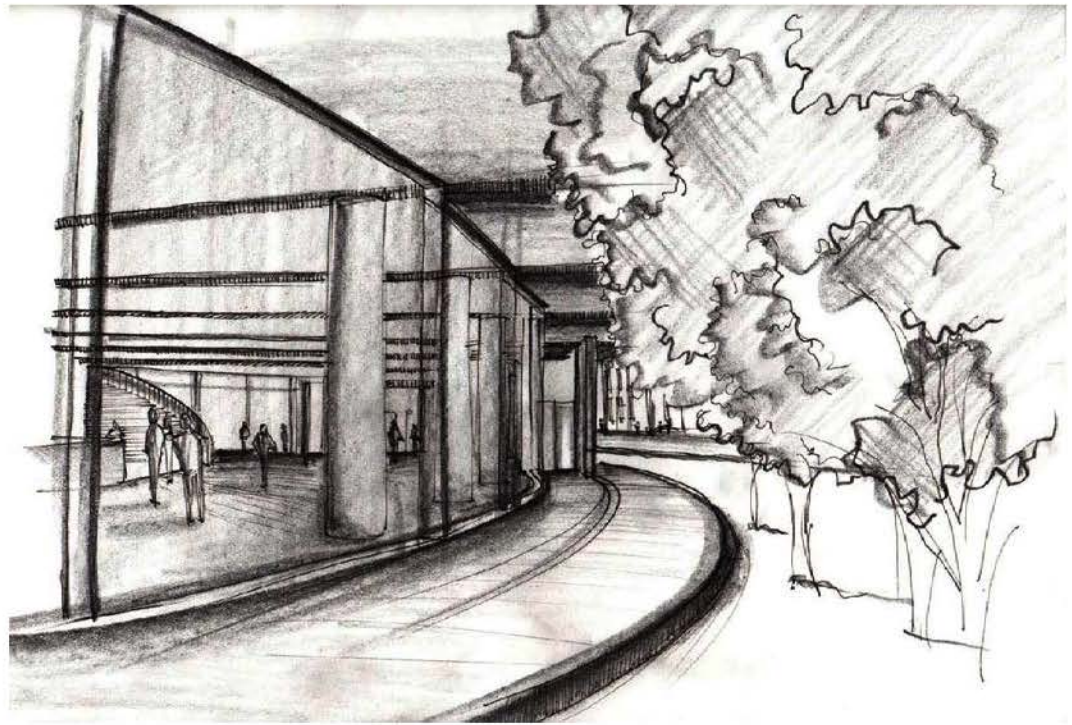
Encountering the full height of the building at the entry one goes through a compressed entry way, which indicates a point of entry and makes the transition from exterior to interior more dramatic once you enter the space and if the horizontal plane of the ceiling begins to increase as it curves around the exterior shell of the theater.



Exterior perspective of a walkway wrapping around the building, creating an outdoor area.

The shifts in the layers of the curtain wall create opportunities for entrances and exits into the building. A point of transition marked by the building to indicate exterior from interior in a beautiful manner.





A closer view into the transitional space between the shifting layers of the curtain wall.



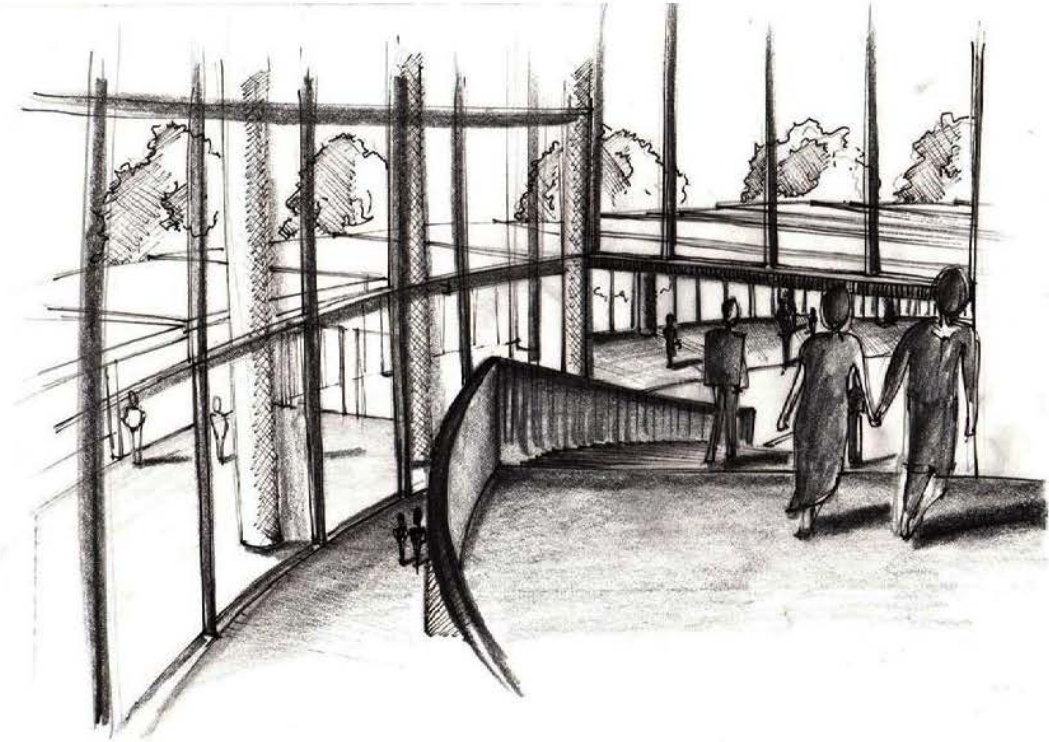
Interior perspective looking into the lobby from main entrance.

After entering through the compressed space, the lobby opens up vertically through the ceiling and becomes an open, inviting space.

Interior perspective from main lobby looking onto the main entrance and spiral staircase on the left hand side leading up the balcony level of theater.

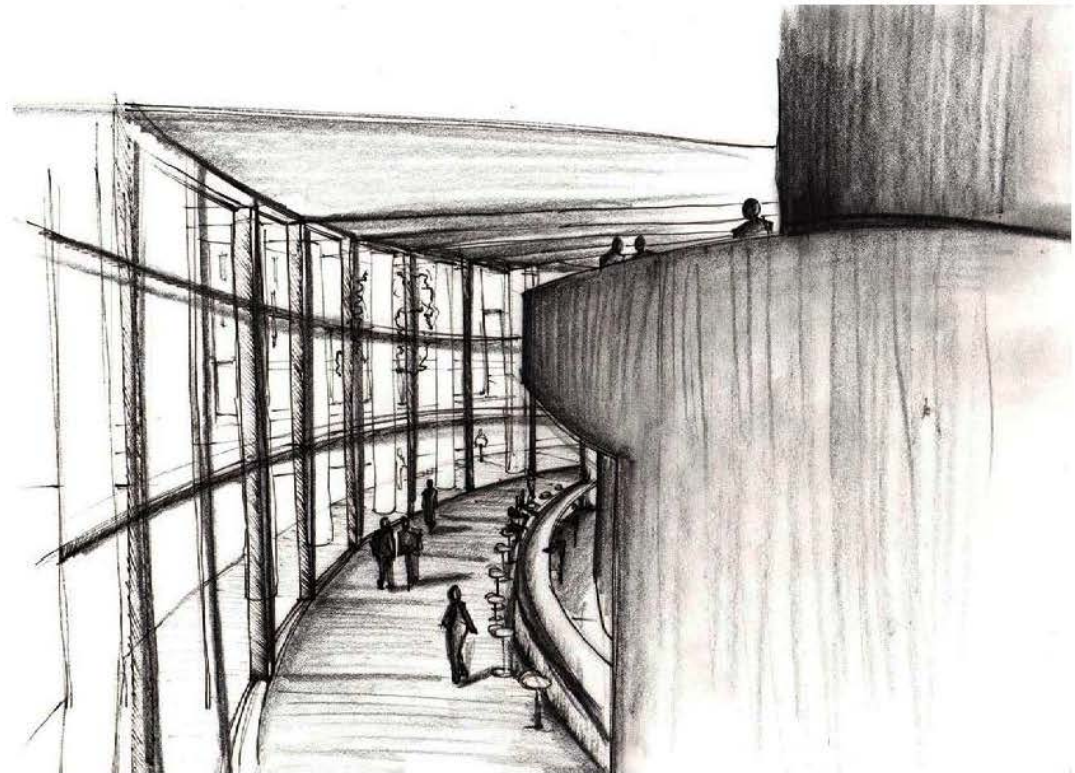


Interior perspective from the curved balcony, overlooking the lobby. The lobby narrows as it wraps around the theater and back around to the main entrance.



Interior perspective of the lobby space that faces Tennessee street, opening up views to the city.

As one travels around the theater from the main entrance into the performance space and then to exit, the space gradually narrows, guiding people around the space through the curvilinear lines of theater.







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