Theater: Architecture of the Horizon

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Cem Ozdeniz

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

Master of Architecture

In Architecture

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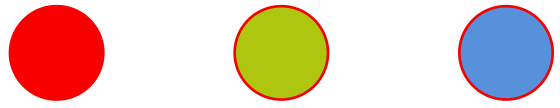
Abstract

Architecture exists where the world of ideas meets the world of materials. From its general scheme all the way to the joinery of the floorboards, the proposed building should serve a guiding idea. Otherwise, architecture is not architecture but simply functional construction.

Theater exists within a similar framework, whereby the actor's work is a mundane manifestation of the elements extracted from the world of ideas, making it the perfect conduit to examine the reconciliation of these oppositions: the mundane and the ethereal, the quotidian and the philosophical, the earth and the heavens...

By examining the dichotomous relationship between the tectonic and the stereotomic, the project proposed within these pages provides for a spatial experience that will aid its audience in shedding the entrapments of their daily lives as they proceed towards the auditorium to watch a play. As they move through the building, they will walk through six-foot thick brick walls of heavy stereotomy towards a lighter tectonic environment. As they approach the architectonic auditorium, the horizon, which they could initially only see through small openings within the massive brick walls, becomes more prominent, reminding them of the spherical nature of our world and the existence of an entire universe outside of our frame of reference - a phenomenon which is symbolic of the world of ideas that provides us with theater and architecture.



Dedicated to Sinan and Nicolas who taught me the value of looking at life from a different angle and to Tonton who never made me forget the core of my project.

I love all of you more than one more day...

Acknowledgements

Sincere thanks to

Marcia Feuerstein for the books, the conversations, and the wisdom; Paul Emmons for knowing when to say stop, when to encourage, and when to go for the pencil; Jim Ritter for teaching me about boats, details, and the joys of a pre-theater aperatif; Jaan Holt for making me feel at home in Alexandria and always being there with much cherished stories and advice; Steve Thompson for constantly challenging me, showing me the importance of words, and opening my eyes to themes and movements within those themes; Bill Galloway for helping me see the architecture in life and music; Shelly Martin for teaching us how to look at a single occurance from 15 different vantage points; and, finally, my studio mates in Blacksburg whose input, wit, and intelligence I cherish greatly.

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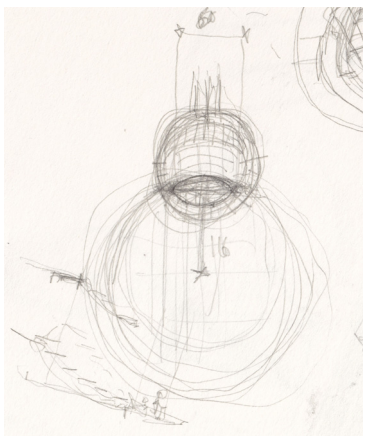
T H E S I T E

In “The Dynamics of Architectural Form” Rudolf Arnheim dissects a particularly unique phenomenon experienced by astronauts: the moment their perception of our planet transforms from that of a heavenly sphere to that of a flat plane. We are intellectually aware of the spherical nature of the world we inhabit. Yet, our perception of it, as long as we remain grounded on this sphere, is that of a flat surface that extends in four cardinal directions. The strength of this illusion is evident in the way we still refer to the “four corners of the world” in colloquial speech. Only when we are confronted with the horizon, that line where the sky and the earth appear to meet, are we made aware of the curvature of our world, and together with it the existence of a vast universe the entirety of which we cannot comprehend.



early concept sketch of the Platonic worlds of material and ideas

The meeting of the earth and the heavens to form the horizon is reminiscent of the way theater is formed where the Platonic worlds of materials and ideas overlap. The spectators belong to the former and the play, as it is written by the playwright, draws on elements of the latter. The actor, on the other hand, is the conduit responsible for manifesting these elements for the benefit of the spectators while sharing their plane of existence. This condition has been best described by Peter Brook as “the theater of the invisible-made-visible.” Similar to the way the horizon hints at the existence of a bigger universe, theater alludes to the existence of a world of ideas larger than the mundane entrapments of the one we live in.

Consequently, the symbolic nature of the horizon should not be ignored while designing a theater building. The horizon’s presence should be felt by those experiencing the space of the building, making the process of site selection extremely significant. If this construct occurs on land, unless one happens to be standing on the plains of Harran, the horizon itself is usually obscured by nearby obstacles such as mountains or other buildings. Thus, the point where the meeting point of the earth and the heavens is most clearly evident is on the water, making the shoreline most suitable for this project.

early concept sketch showing the placement of the building on the water

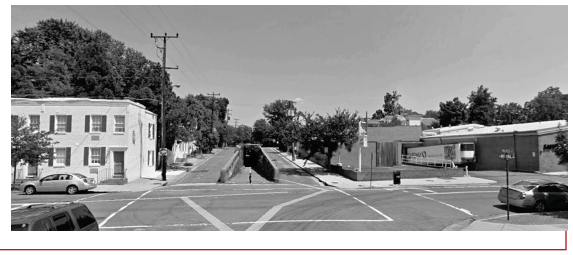
The waterfront of Alexandria, VA has been developed over the last few years with a well-defined shoreline. The development originally included the creation of a patch of land in front of Windmill Hill Park by infilling a man-made bay defined by precast concrete blocks. Originally designed to provide passer-bys with a point of respite in observance of the water, over time the blocks have fallen into a state of disrepair, resulting in an unused patch of land slowly eroding into the sea.

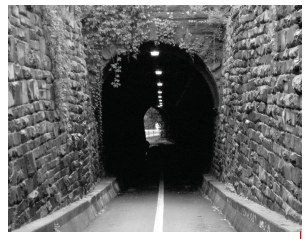
This project aims to repair the damage done to this particular plot, providing it with a new purpose, and completing the otherwise fully constructed shoreline of the city.

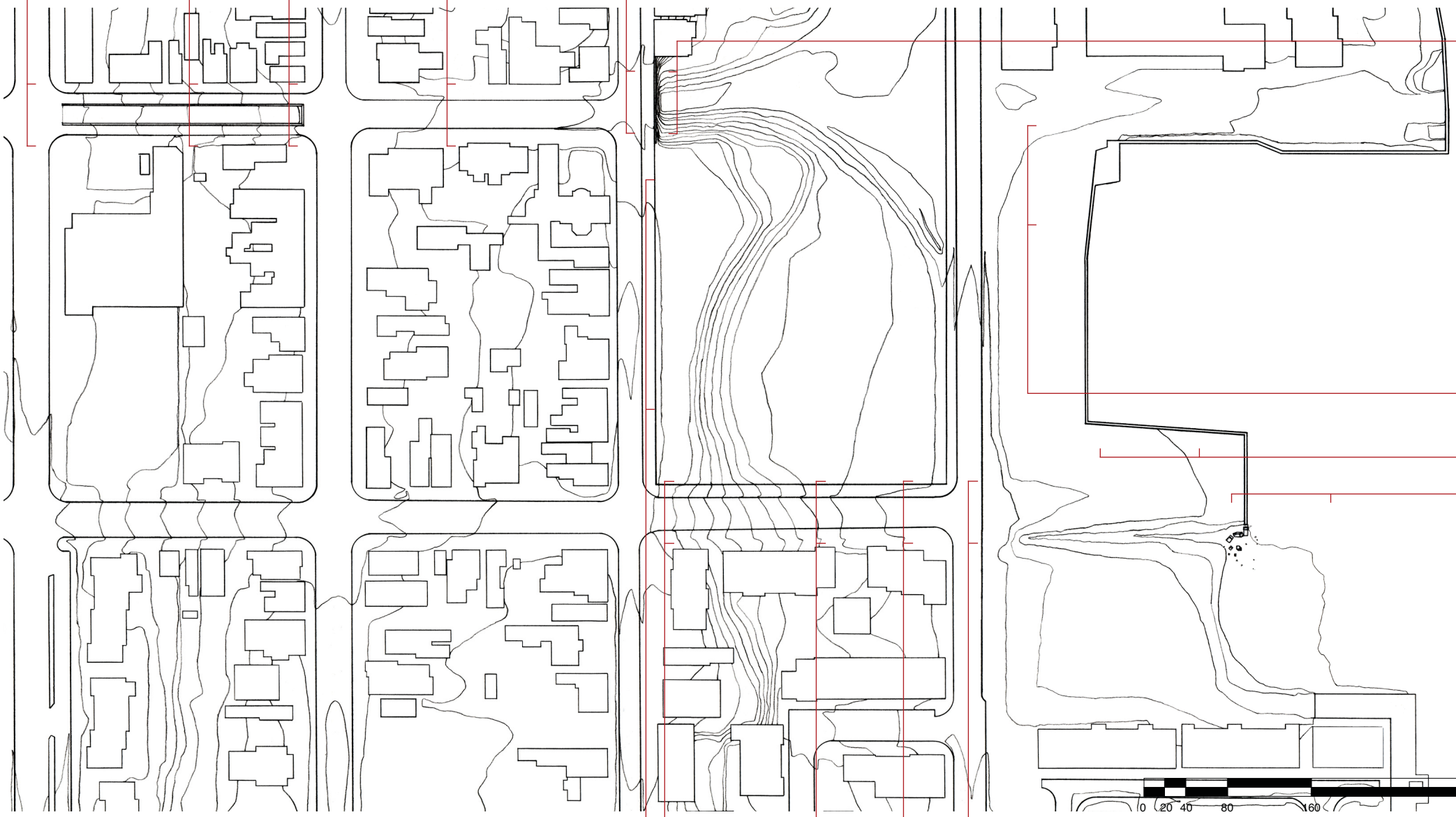
diagrammatical site analysis

Existing Site:

views into Wilkes St. Tunnel looking east:








view of the waterfront from Lee St. looking east





views of the waterfront from Gibbon St. looking east

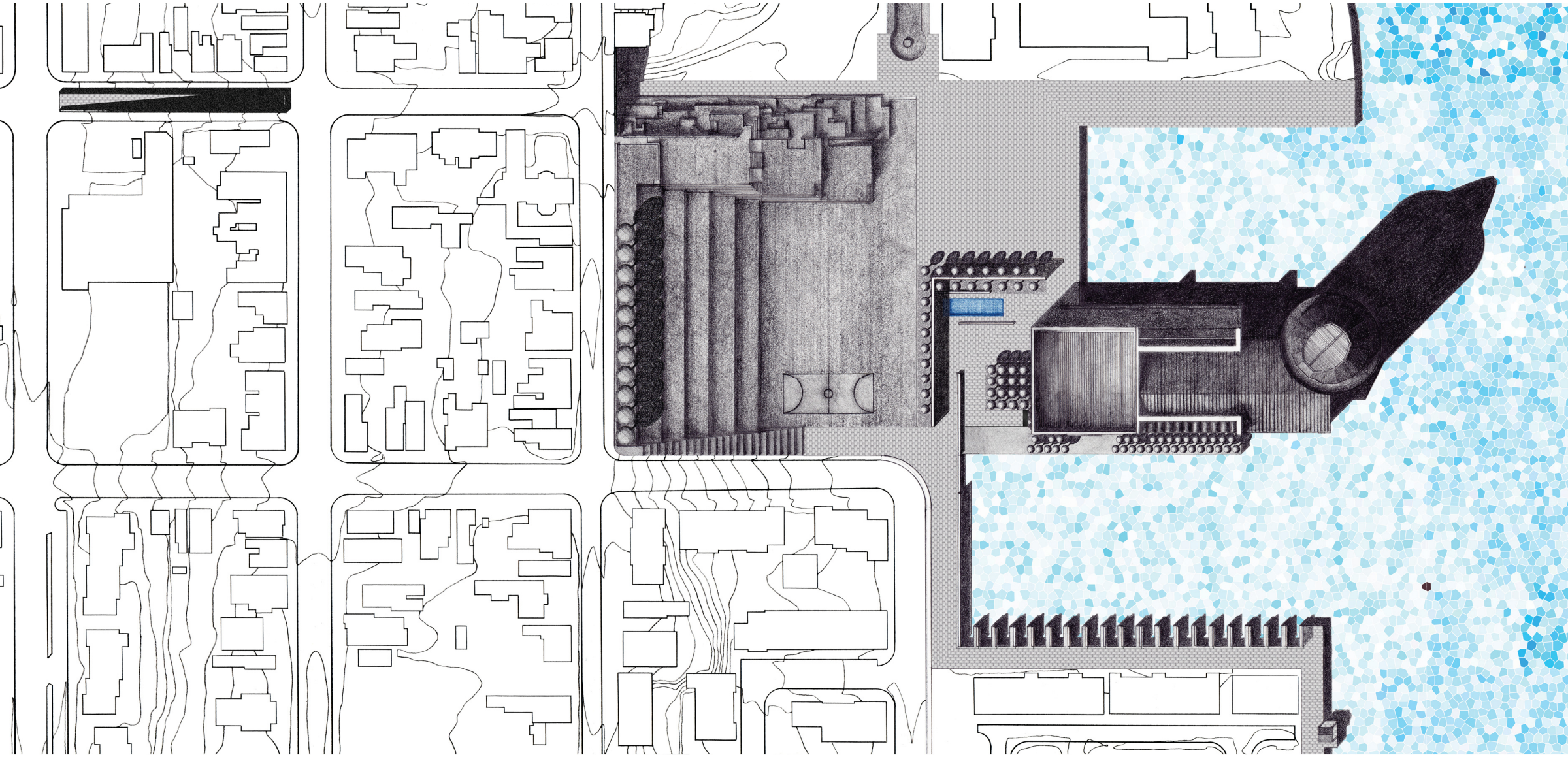
view into Wilkes St. Tunnel looking west

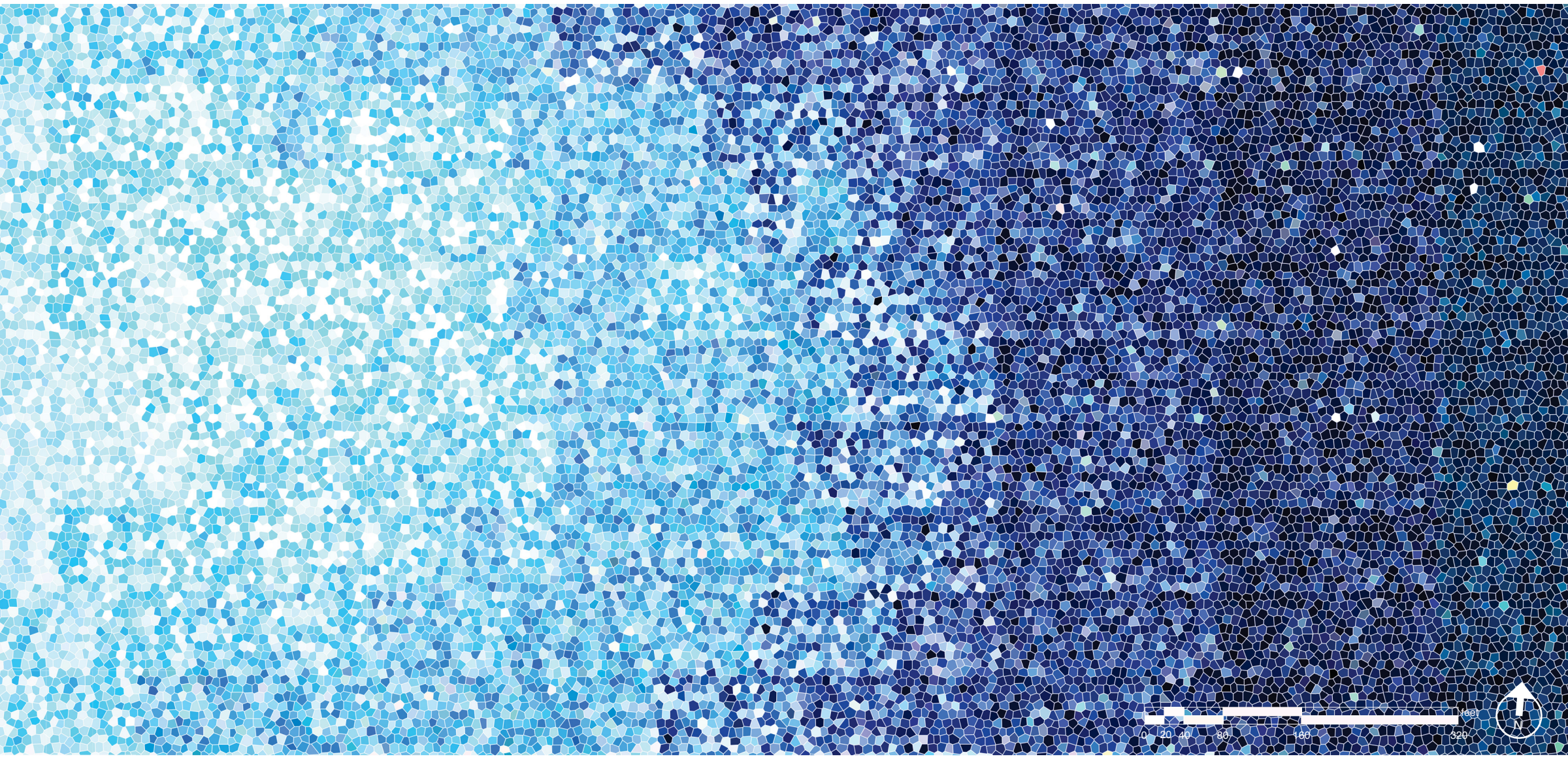
view of the waterfront looking east

view of the waterfront looking north

view of the waterfront looking south

Proposed Site:

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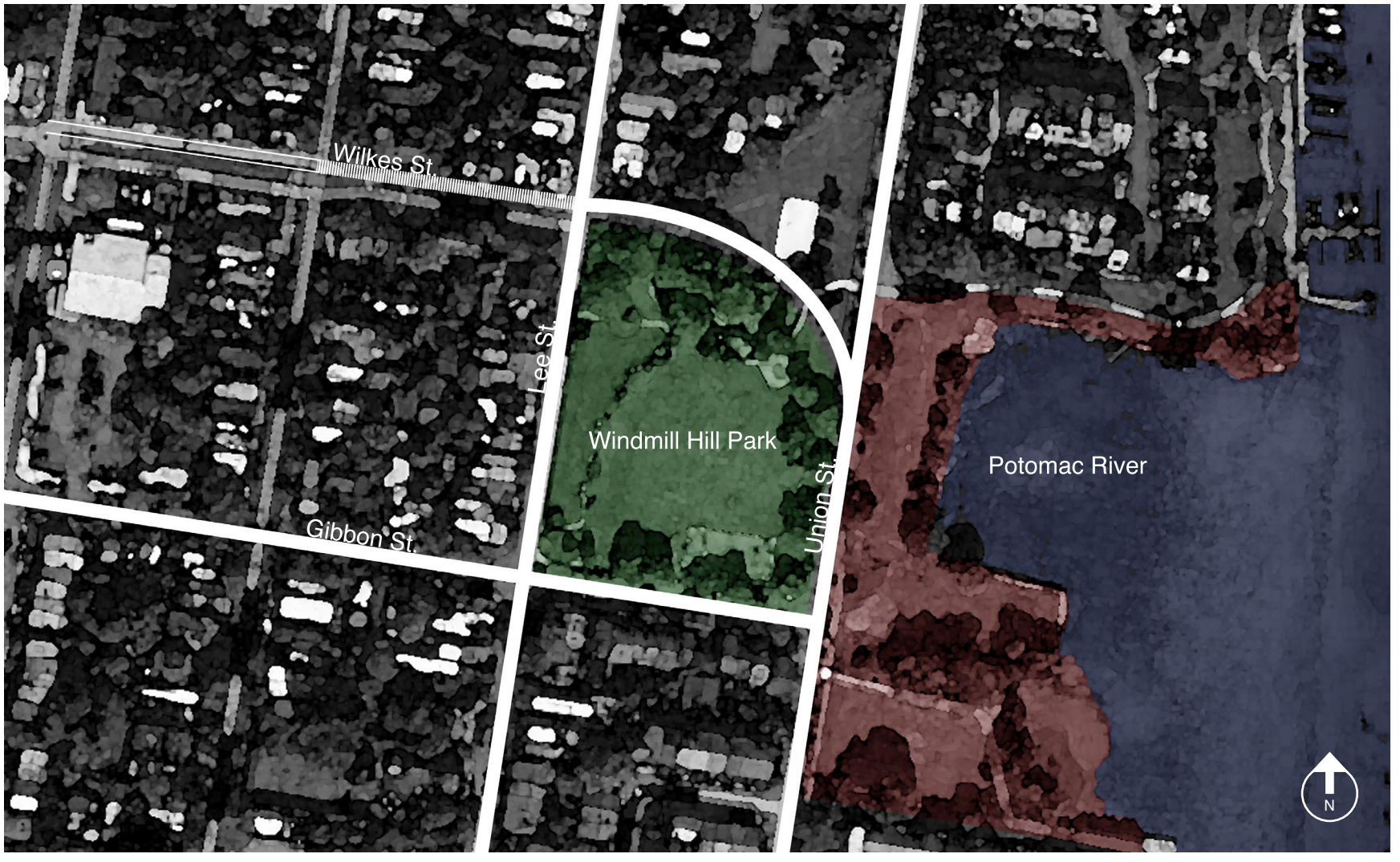
E N T R A N C E



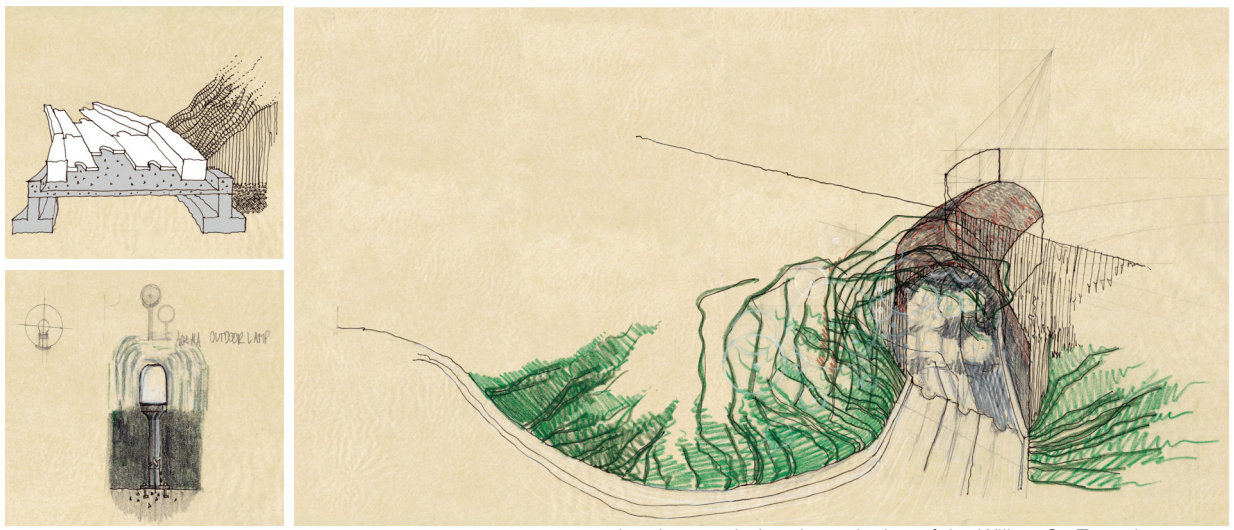
There are four possible ways of approaching the project site:

- The renovated Wilkes St. railway tunnel now closed to traffic,
- Gibbon St.,
- Windmill Hill Park, and
- Potomac River.

W i l k e s S t . T u n n e l

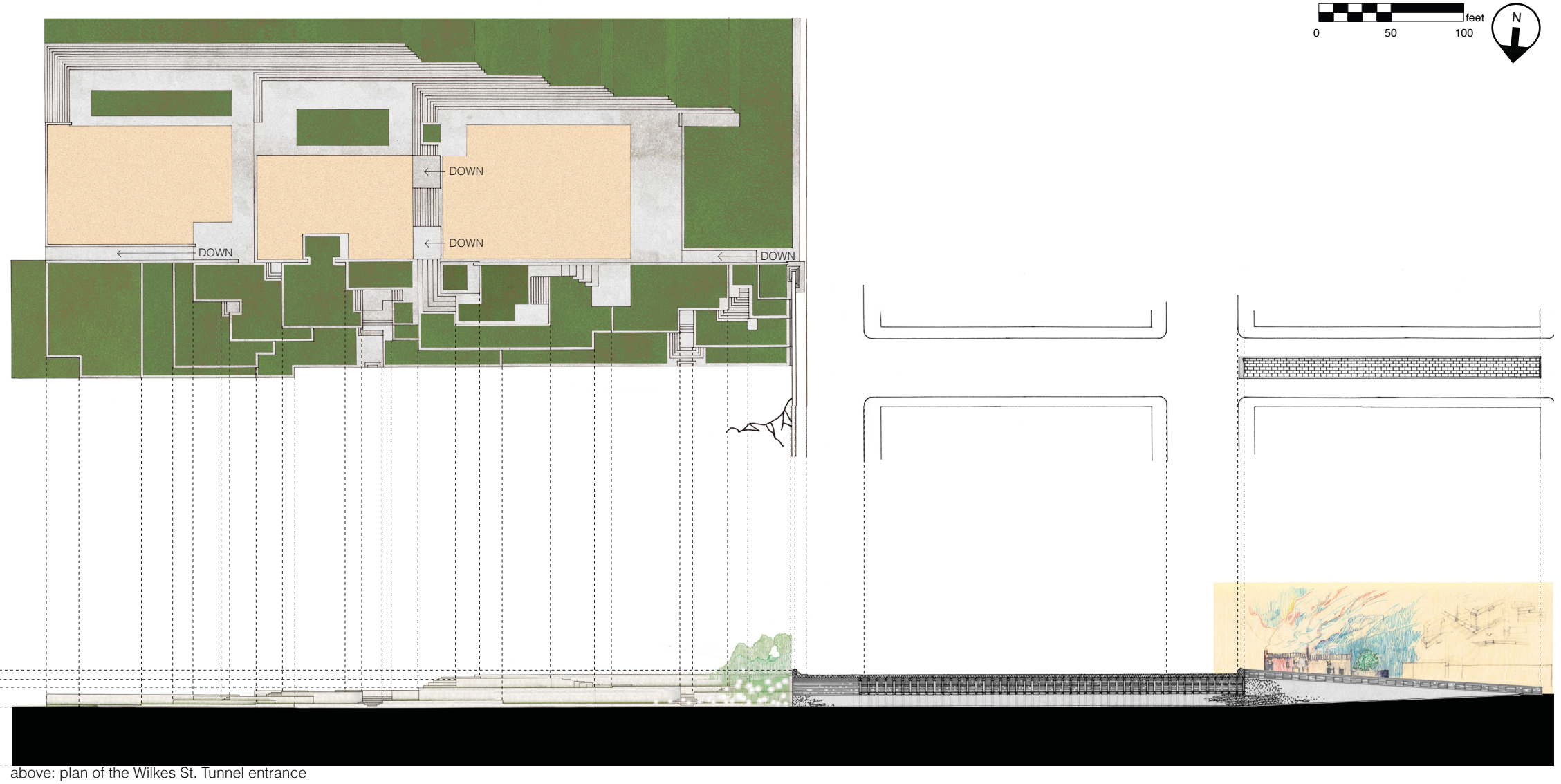
In his seminal graphic novel, the Sandman, Neil Gaiman imagines a world where Morpheus commissions William Shakespeare to write a play – A Midsummer Night's Dream – whose debut performance is to be in front of an audience comprised entirely of faeries. The audience, which includes King Oberon and Queen Titania as well as the other creatures named in the bard's play, comes out of the mountain to watch the performance.

This fictional device is a simple yet beautiful way of capturing the essence of the theater going experience. Similar to Oberon and Titania's literal emergence out of the mighty rock, when we go to the theater, each new step takes us away from the mundane world of matter and closer to the world of ideas that fuels theater. The play we watch may not be contextually about us but about universal patterns and ideas that resonate within. This particular understanding of theater as a ritual of abandoning the mundane in order to touch something greater than ourselves in the same manner that Oberon and Titania left the mountain to watch A Midsummer Night's Dream is best encapsulated by the Wilkes St. entrance to the project site, whereby the spectators travel through a heavy quasi-subterranean stereotomic tunnel to arrive at the theater building. By nature, stereotomy makes use of gravity for architectural construction, binding it, by design, to the earth and, symbolically, to the mundane. In my proposal, the walls and arched ceiling of the brick and stone structure are left untouched as these elements represent the true nature of the stereotomic materials. However, I propose that its floor of asphalt, which is less of an architectural material and more of a practical ground cover, be replaced with a floor of limestone blocks which would not only signify the beginning of the entranceway from Wilkes St. but would also continue the processional of the tunnel into the courtyard and foyer, and, finally, up to the lobby of the theater.

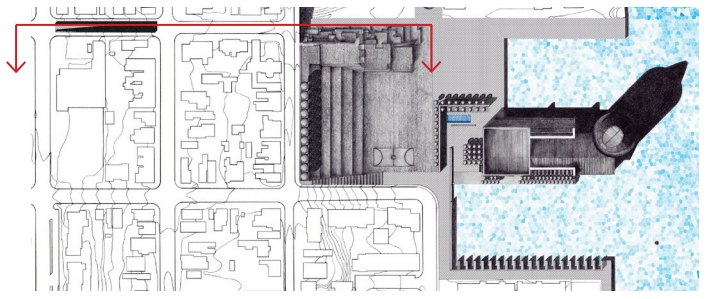


sketches exploring the redesign of the Wilkes St. Tunnel entrance

eastern elevation of the Wilkes St. Tunnel entrance



above: plan of the Wilkes St. Tunnel entrance
below: cross section of the Wilkes St. Tunnel entrance

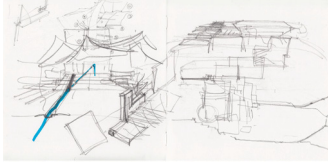


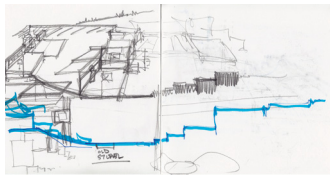
W i n d m i l l H i l l P a r k

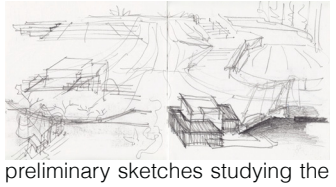
model of Windmill Hill Park looking west towards Alexandria

Windmill Hill Park spans an impressive land mass of 12,000 square yards. The eastern portion of the park consists of a playground complex, a basketball court, and approximately 3,000 square yards of flat land used by junior league sports teams for weekend practice. Due to their successful execution, the project presented herein does not propose any major changes that would alter these functions, with the exception of the awkwardly sloping land positioned between the Wilkes St. tunnel and the playgrounds. Currently acting as a repository of some trees and a considerable amount of garbage, this plot represents a missed opportunity in terms of providing a place of respite for picnic goers or parents of the children that are enjoying the playgrounds. Thus I propose to transform this area into a series of grassy terraces that can be enjoyed by the visitors. The trees that are currently there are to be replanted as part of this new scheme to provide much needed shade for the playgrounds.

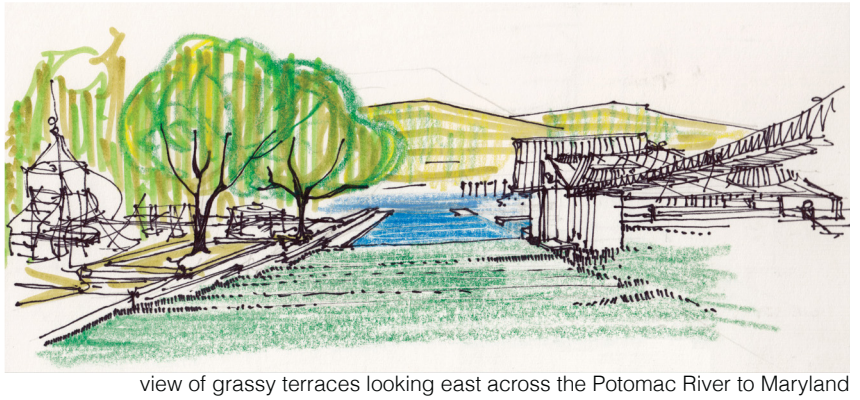
The western portion of the park, an area of approximately 2,800 square yards, is appointed for recreational use by the general public, including but not limited to picnics, dog walking, and, I am told, taking a break from the travails of daily life to watch the calm waters of the bay. Unfortunately, the park fails to facilitate these activities due to a steep drop of fourteen feet in elevation within a span of twenty-seven feet from its highest point at the level of Lee St. to the level of the proposed project site. This 1:2 slope is not conducive to any kind of physical activity, let alone providing a comfortable place to simply sit and admire the land that flows into the water, continuing towards the horizon. Consequently, I propose to sculpt the western portion of the park into a series of cascading grassy platforms that will provide ample flat surfaces to carry out the previously listed functions. Furthermore, I propose the elimination of the portion of Union St. coinciding with the eastern border of the park, allowing the cascading landscape to meet the aforementioned 3,000 square yards of flat land leading up to the theater.





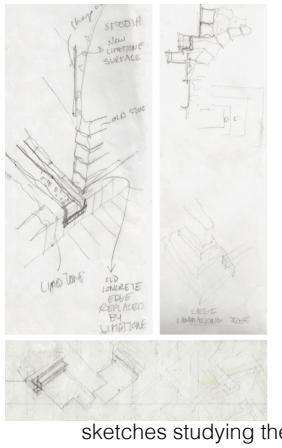


preliminary sketches studying the slope of Windmill Hill Park

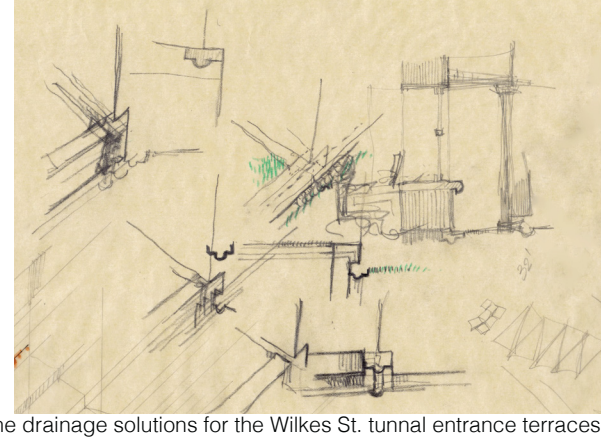


view of grassy terraces looking east across the Potomac River to Maryland

preliminary sketch of the terraced area at the Wilkes st. Tunnel entrance



sketches studying the drainage solutions for the Wilkes St. tunnal entrance terraces

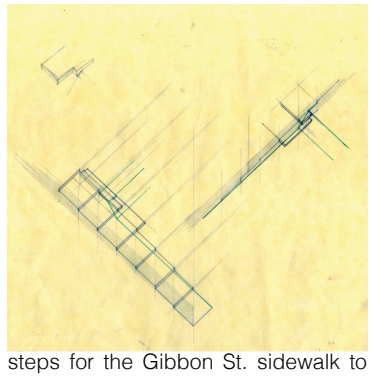


Wilkes St. terraces looking west towards Alexandria

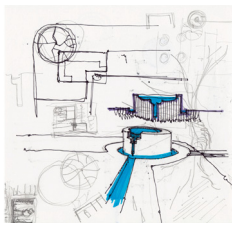
G i b b o n S t .

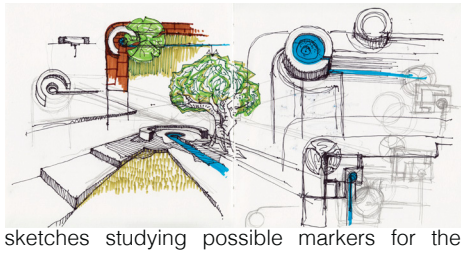
Growing up in Istanbul, the sea was inevitable. Founded on seven hills, all steep streets of the city led to the water, resulting in views of the Bosphorus framed by tight building formations. Gibbon St. provides a reproduction of this Turkish phenomenon on the shores of Alexandria, VA. As one descends Gibbon St., the shimmering waters of the Potomac River greet and invite. Therefore, the proposal ensures that the view of the water from Gibbon St. is framed to ensure its visibility to those spectators that choose to make their way to the theater through this street.

composite sketch depicting the poured concrete wall to be placed at the end of Gibbon St. framing the Potomac River looking east



steps for the Gibbon St. sidewalk to the south of Windmill Hill Park

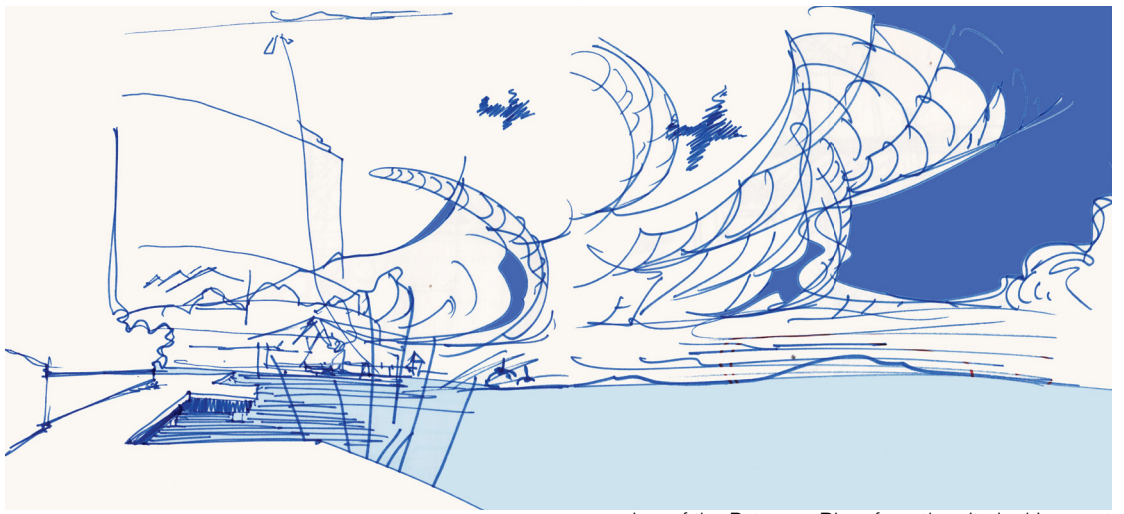




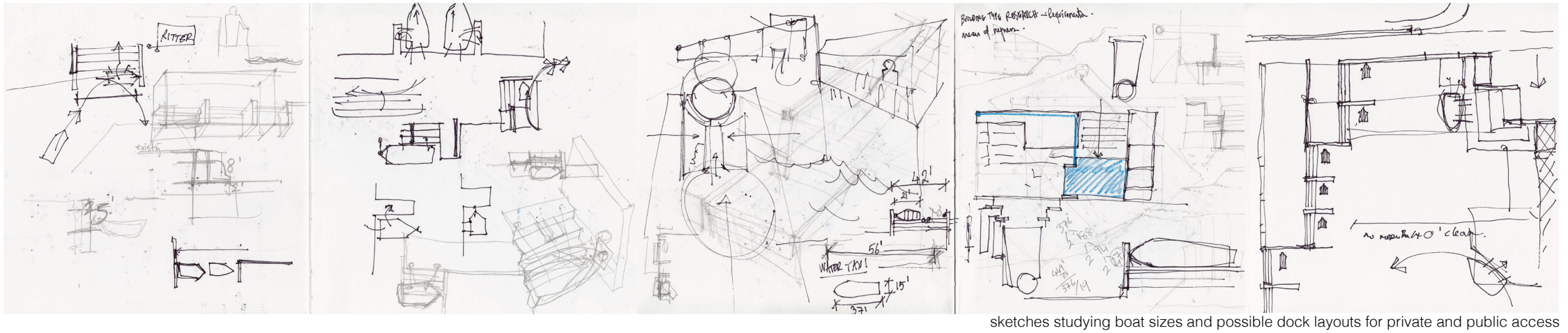
sketches studying possible markers for the corner of Gibbon St. and Lee St.

P o t o m a c R i v e r

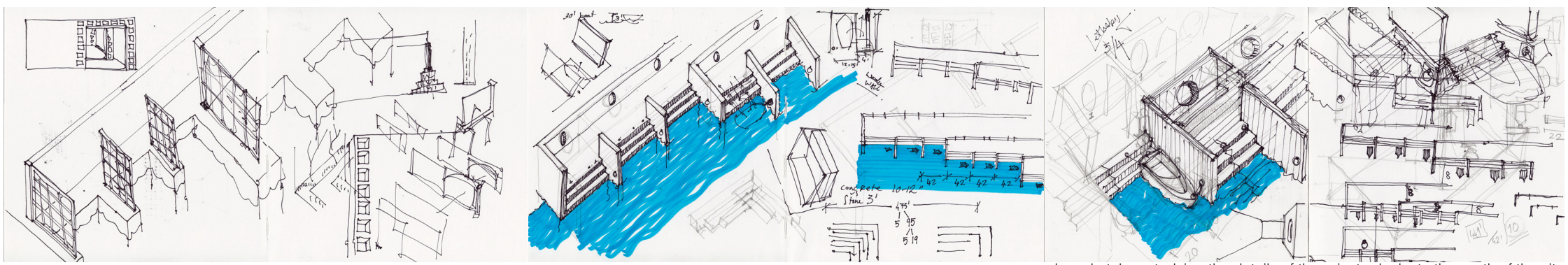
Water taxis carry passengers from Georgetown to Alexandria on a daily basis. However, these passengers are dropped off at the marina some 650 yards north of the project site, making it a fairly arduous task for patrons making use of the water taxi system to get to the theater. Thus I propose the placement of a water taxi platform on the site that would act as the final stop for theatergoers making use of the water taxi service. Additionally, the project site will provide individual docks for those patrons that choose to arrive at the site on their private boats. It is my hope that these screened docks will provide them with a place to enjoy their pre-theater aperitifs before heading into the building. This series of sketches explore the possible solutions for approaching the site from the Potomac River.



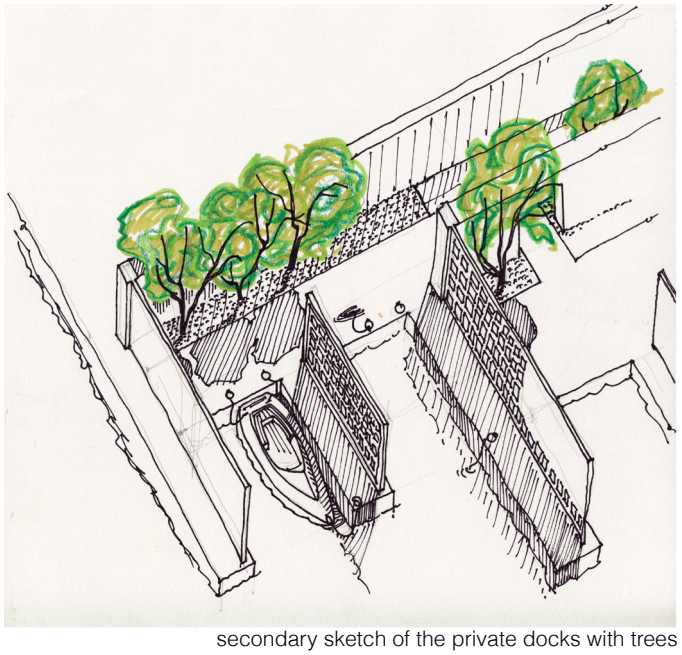
view of the Potomac River from the site looking east



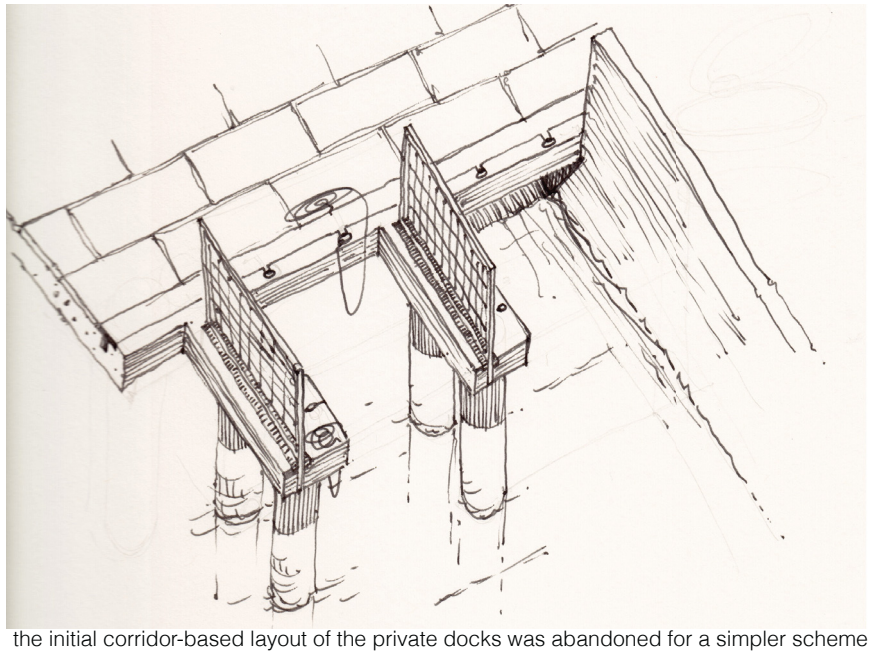
sketches studying boat sizes and possible dock layouts for private and public access



secondary sketches studying the details of the private docks to the south of the site

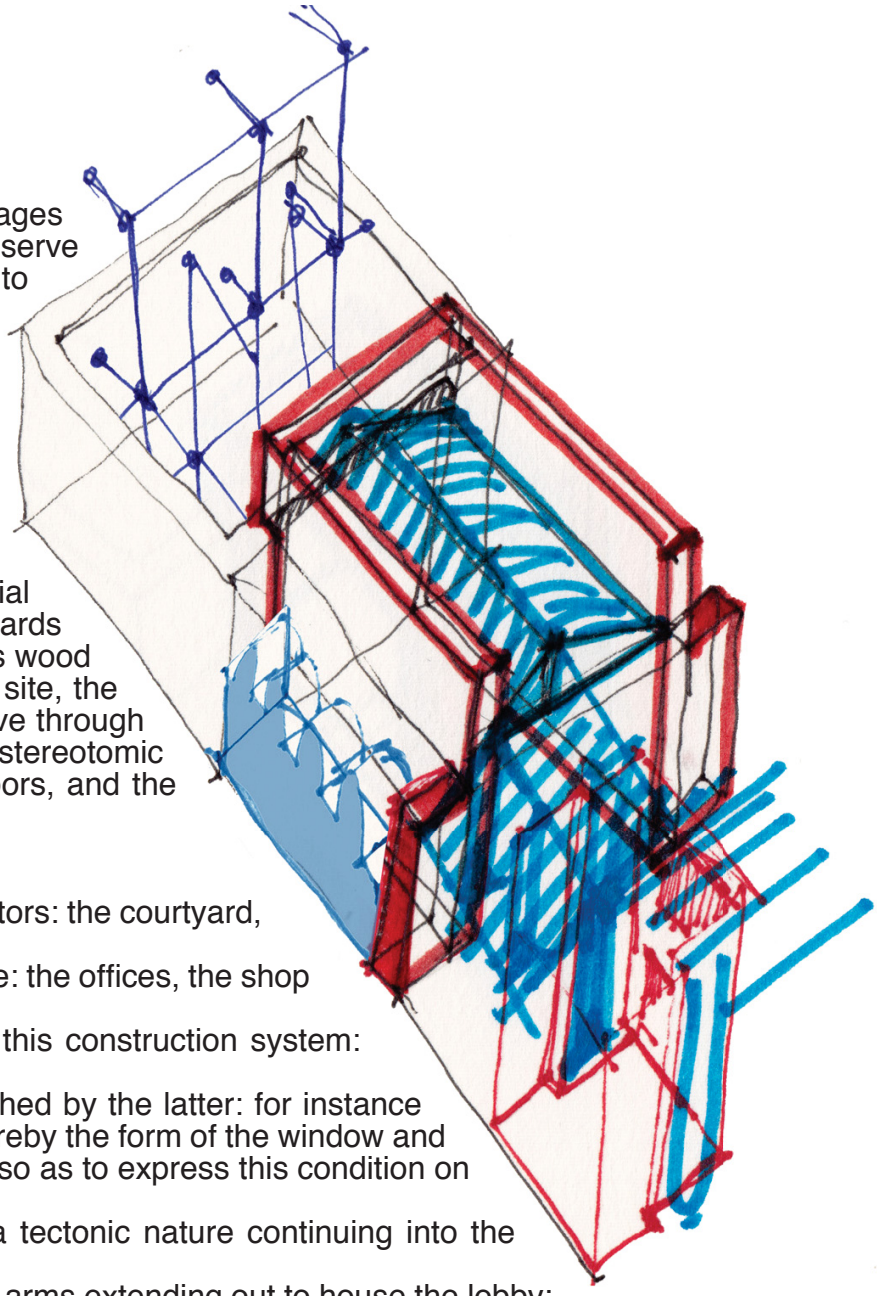


secondary sketch of the private docks with trees



the initial corridor-based layout of the private docks was abandoned for a simpler scheme whereby the boats can dock side by side while still retaining patrons' privacy

T H E B U I L D I N G

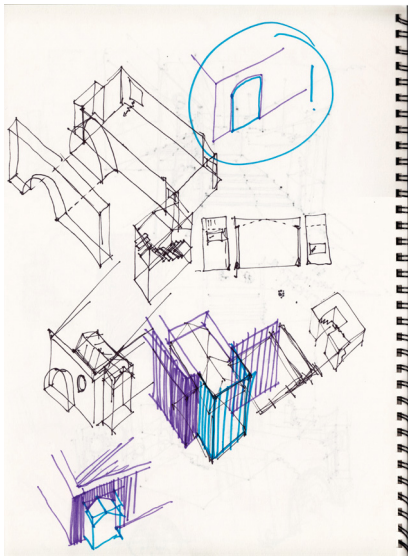


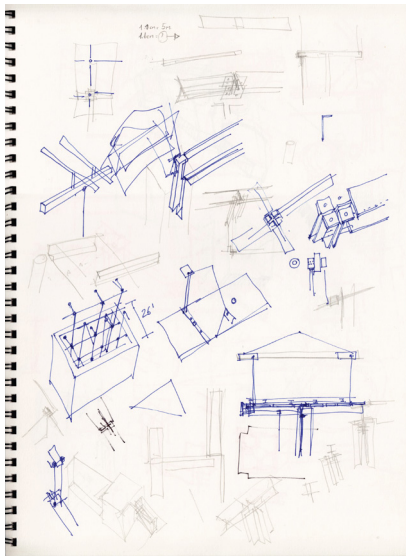
Very much like theater, architecture has the capacity to truly move the human soul when it manages to embody the “invisible-made-visible.” In other words, the spaces we design should not simply serve a function but should also aim to give form – from the overall scheme all the way to the details - to an idea. In this particular project, the theater is where the mundane meets the heavenly as the audience members leave their quotidian lives behind to enjoy ideas manifested on the stage. The architecture that provides for such an occasion should reflect this procession from the realm of the earthly to the realm of the heavenly as the spectators move through the building from the land towards the water.

Architecturally, the dichotomous nature of theater can best be expressed through the juxtaposition of two construction systems: stereotomy and tectonics. By design, stereotomy uses gravity and the compressive qualities of materials such as brick, stone, and concrete. With the exception of cathedrals, where stone is used more tectonically than stereotomically, as the weight of one material bears on the one preceding it, those that experience the stereotomic space feel its orientation towards the earth. Tectonics, on the other hand, has an affinity for the tensile qualities of materials such as wood and steel, orienting the building in the opposite direction: the sky. Thus, upon their arrival at the site, the spectators enter a building that is stereotomic for all intents and purposes. However, as they move through the foyer and the lobby towards the auditorium, the construction slowly switches from that of a stereotomic building to that of a tectonic one, articulated in the joinery and construction of the walls, the floors, and the support system.

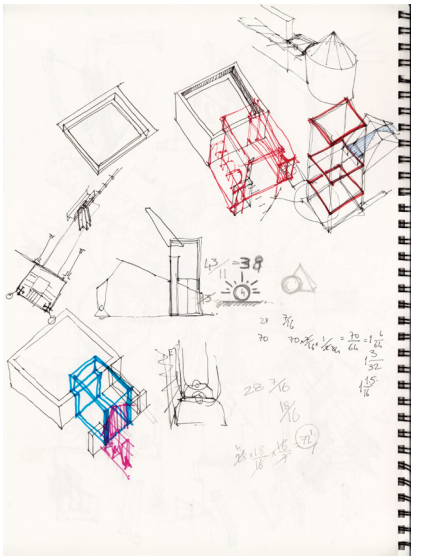
For a successful execution, certain guidelines were essential:

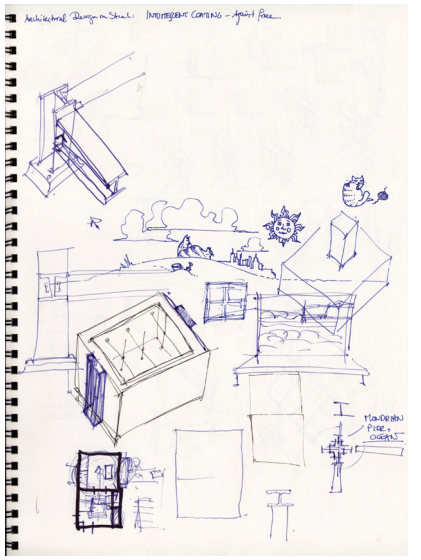
- The stereotomic applies to those areas that pertain to the earthly experiences of the spectators: the courtyard, the foyer, the book store, and partially the lobby;
- The tectonic applies to those areas that pertain to the realization of the theatrical experience: the offices, the shop and storage areas, the auditorium, and partially the lobby;
- All openings within the stereotomic walls are supported within the tensile restrictions of this construction system: circular or arched openings;
- Any of the tectonic spaces that interact with the stereotomy follow the guidelines established by the latter: for instance the offices are treated as a tectonic metal box inserted within a stereotomic enclosure, whereby the form of the window and door openings of the box will follow the stereotomic openings through which they protrude so as to express this condition on the exterior façade;
- The floor of the foyer follows the stereotomic system while the floor of the lobby is of a tectonic nature continuing into the auditorium;
- The side walls of the lobby are extensions of the stereotomic foyer walls reminiscent of two arms extending out to house the lobby; however, the floor of the lobby is independent of these walls, reinforcing its tectonic nature; and
- The roof of the foyer is made of stereotomic folded reinforced concrete panels that let in sunlight while the roof of the lobby and the auditorium are tectonic in nature.



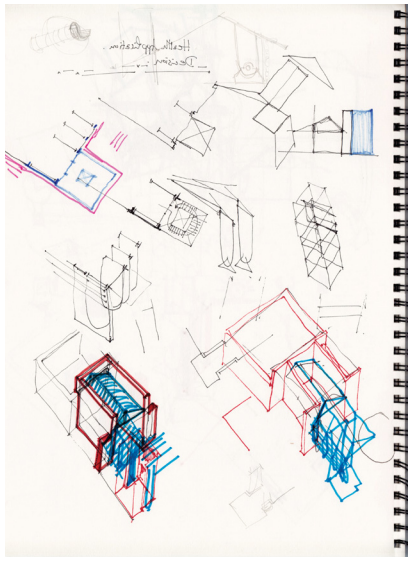


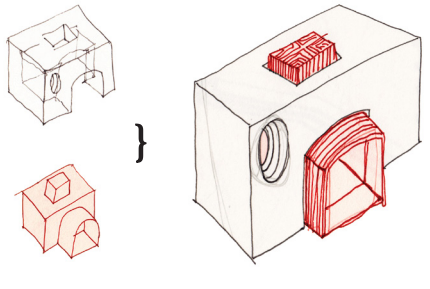
series of sketches exploring the construction of the stereotomic mass of the building



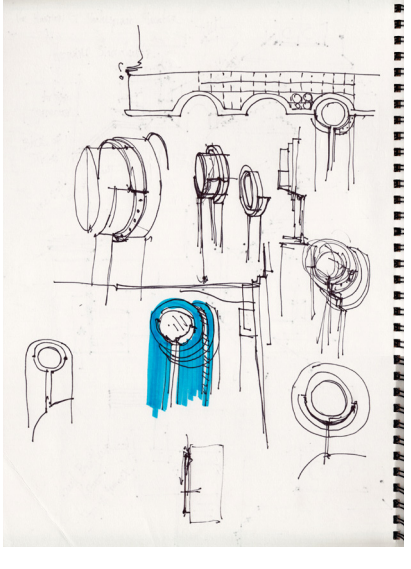


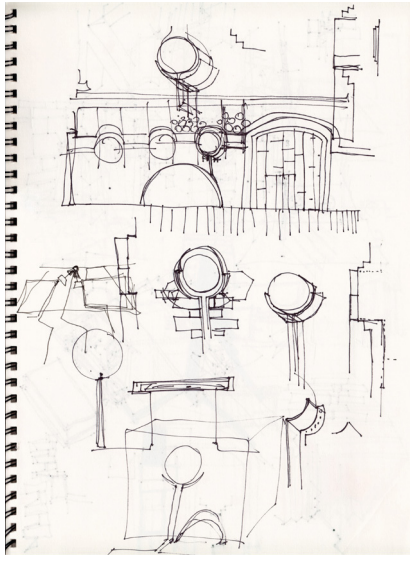
series of sketches exploring the interaction between the stereotomic and the tectonic





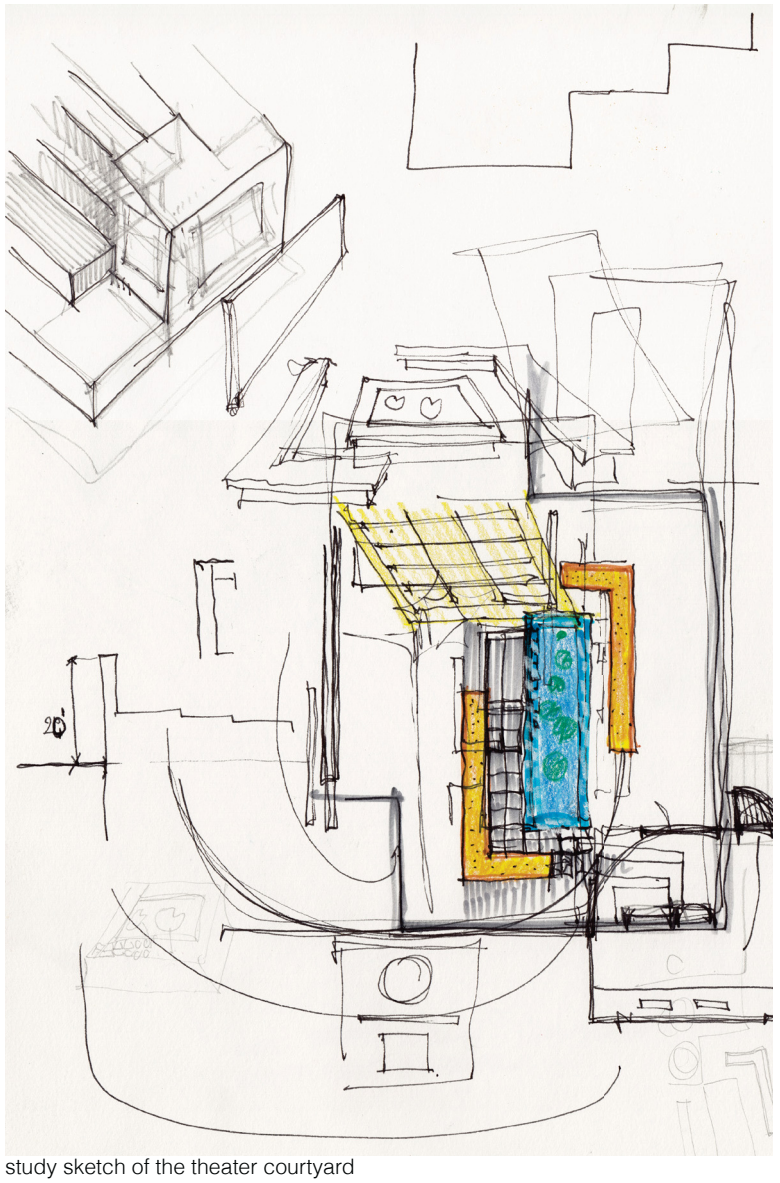
series of sketches exploring the interaction between the stereotomic and the tectonic





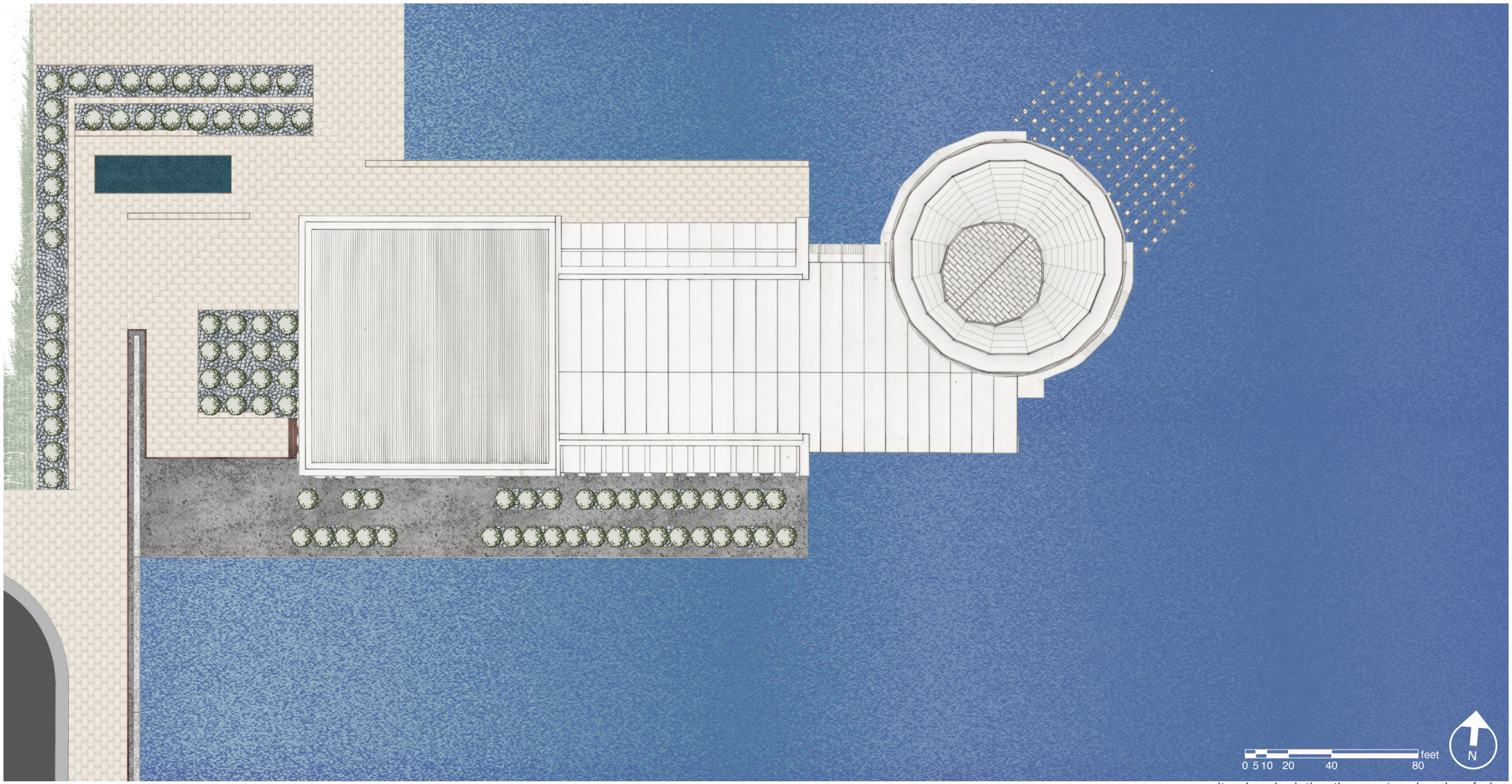
series of sketches exploring the interaction between the stereotomic wall and the tectonic window

The Courtyard



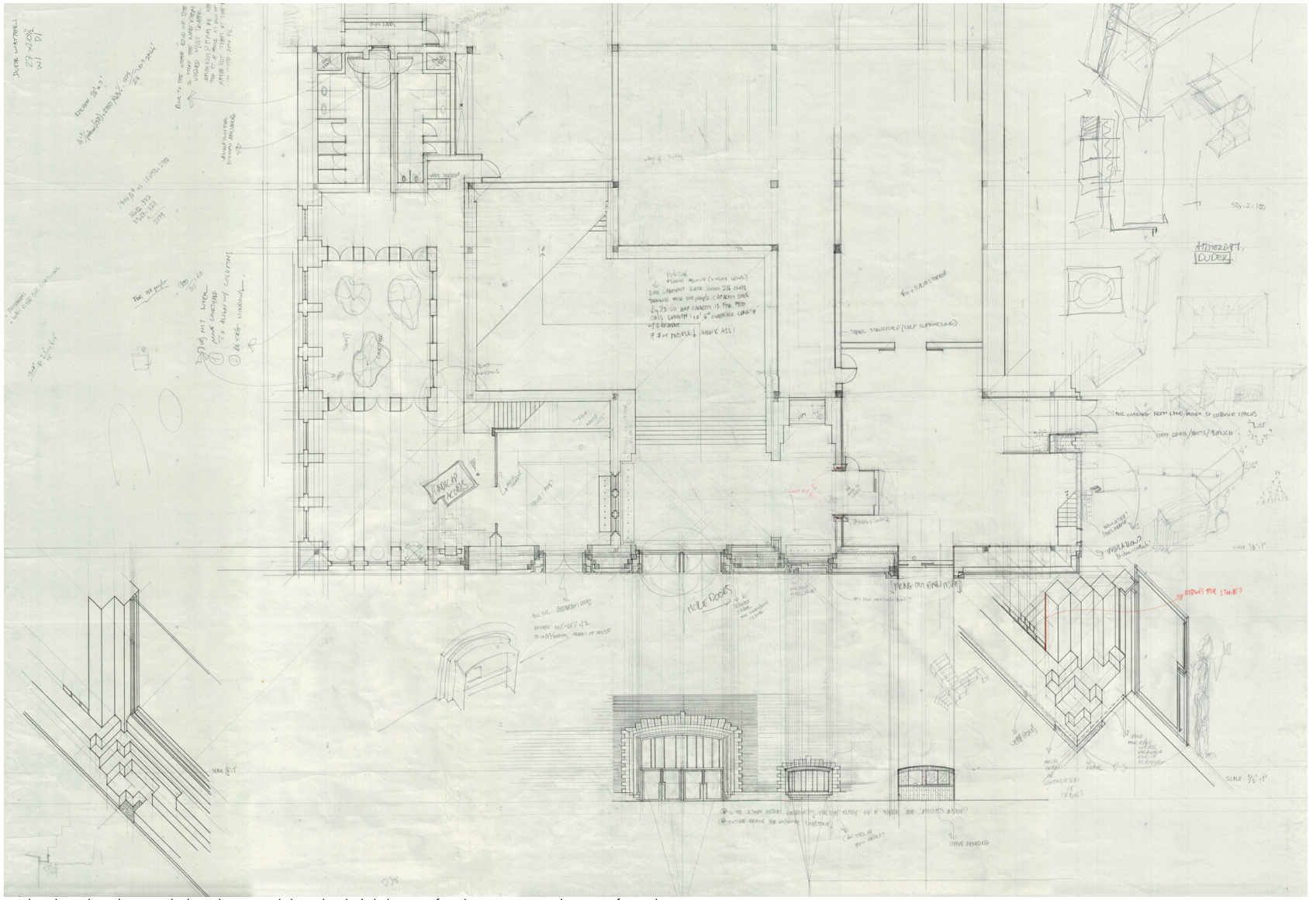
study sketch of the theater courtyard

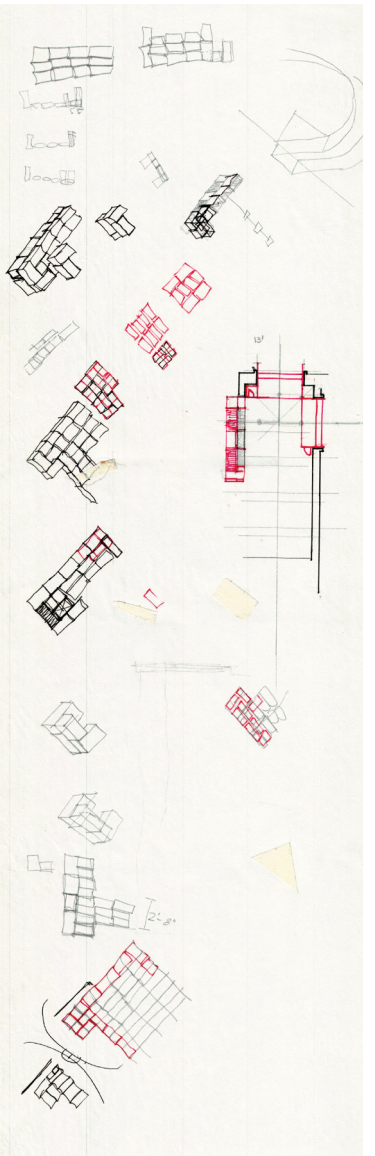
view of the theater courtyard looking north



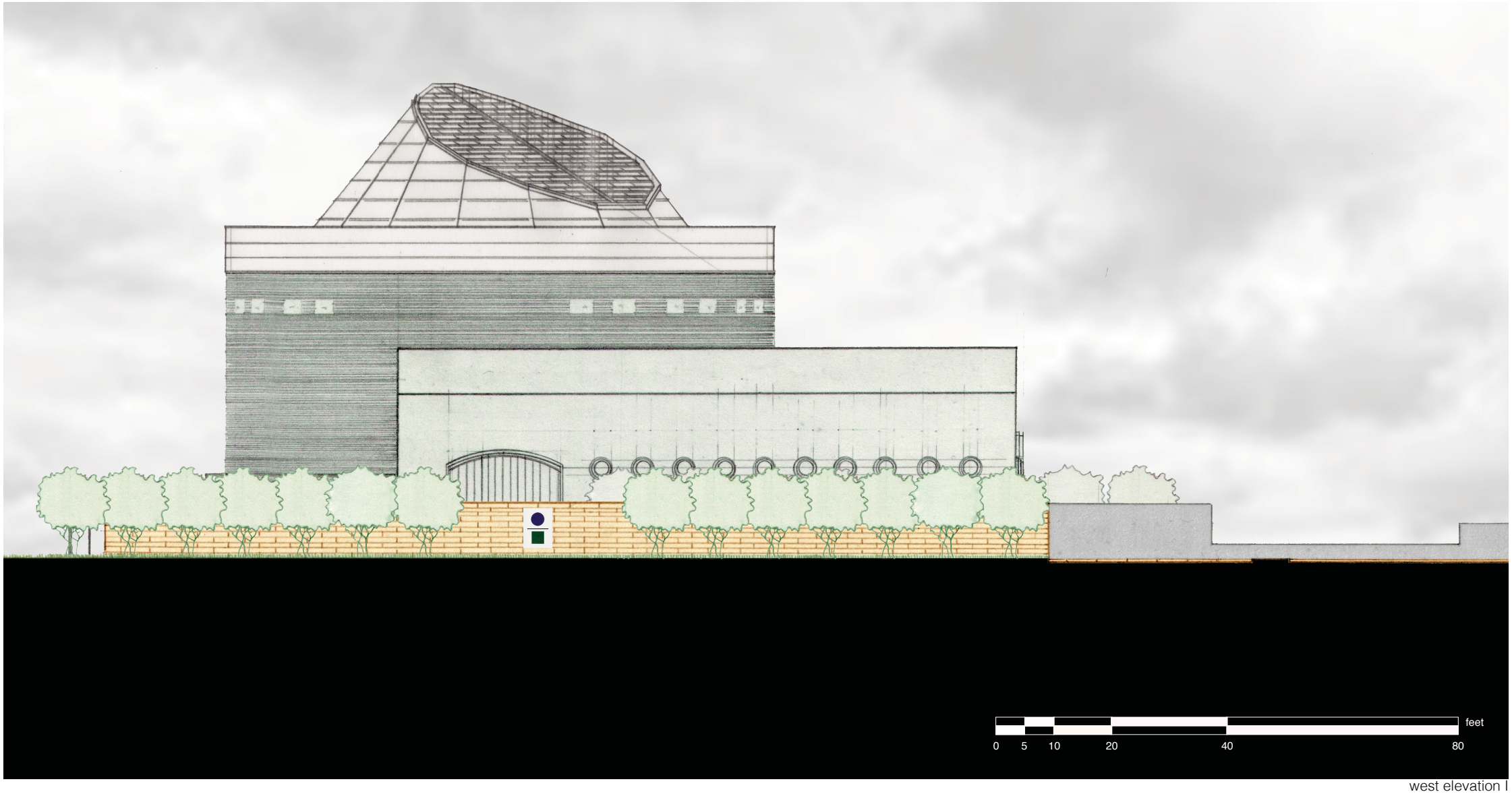
site plan depicting the courtyard and roof plan

E l e v a t i o n s

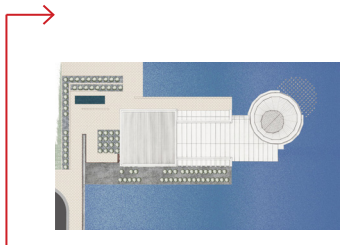


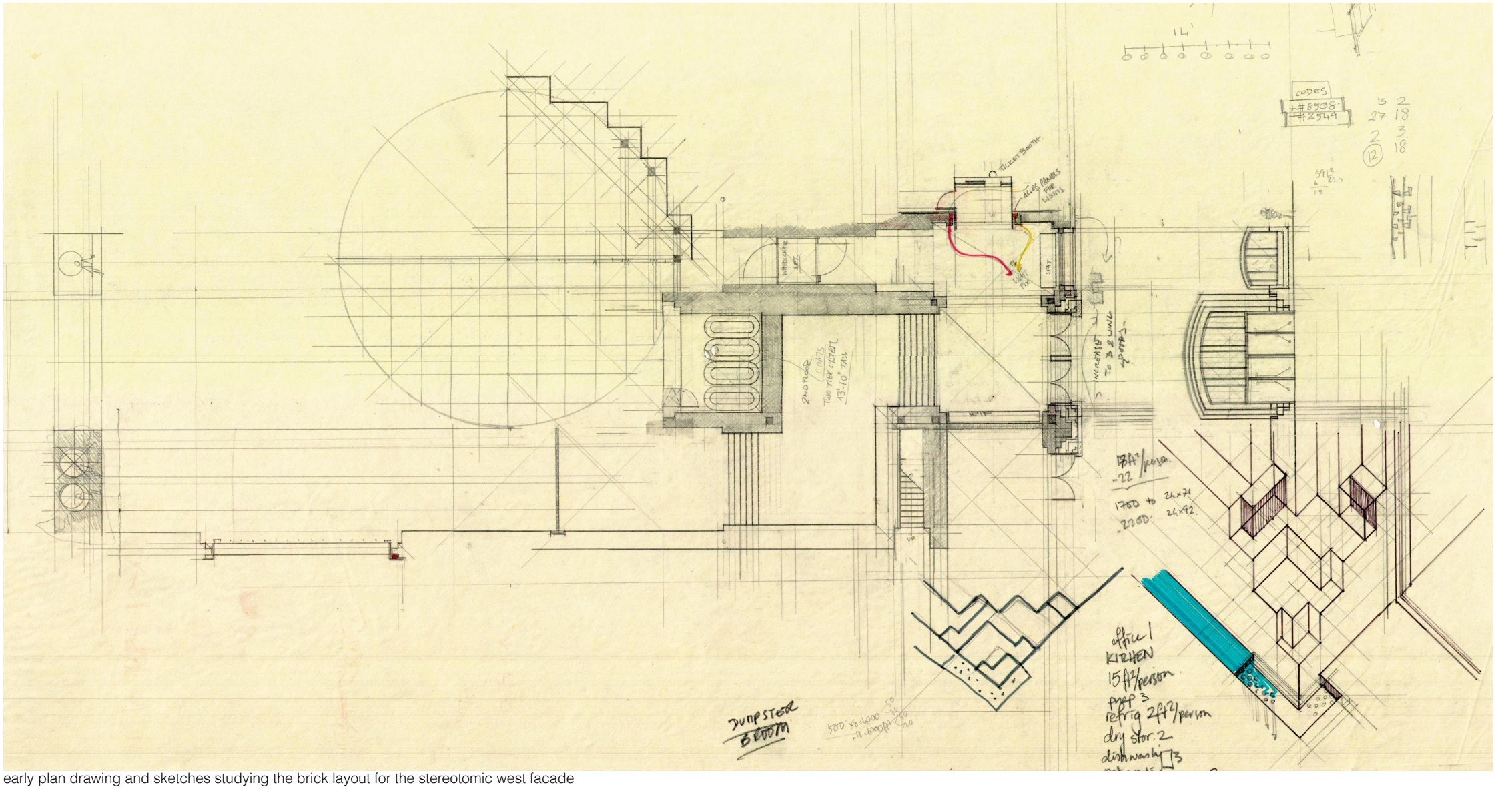


early plan drawing and sketches studying the brick layout for the stereotomic west facade

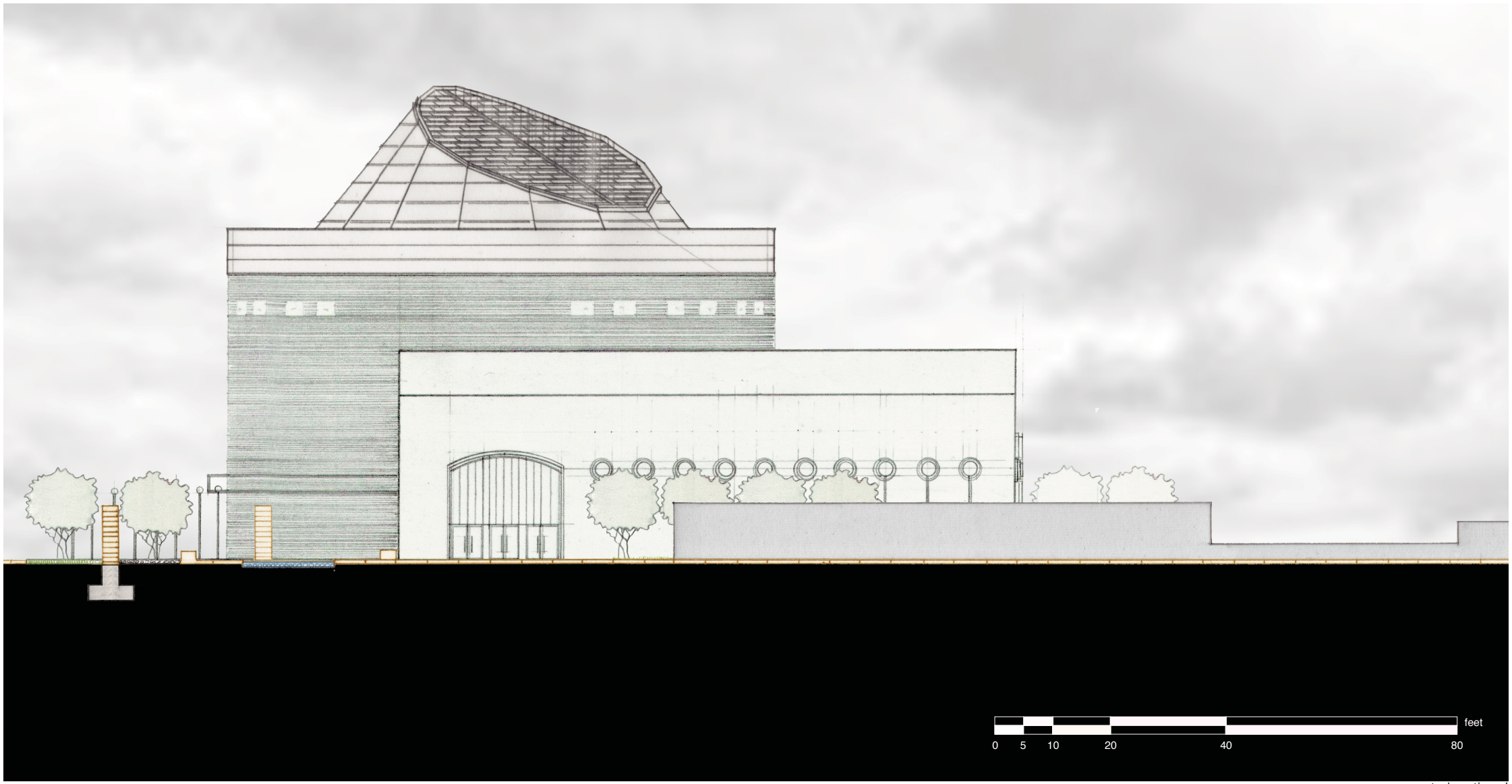


west elevation I

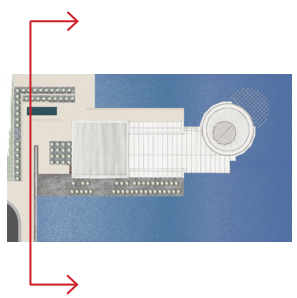


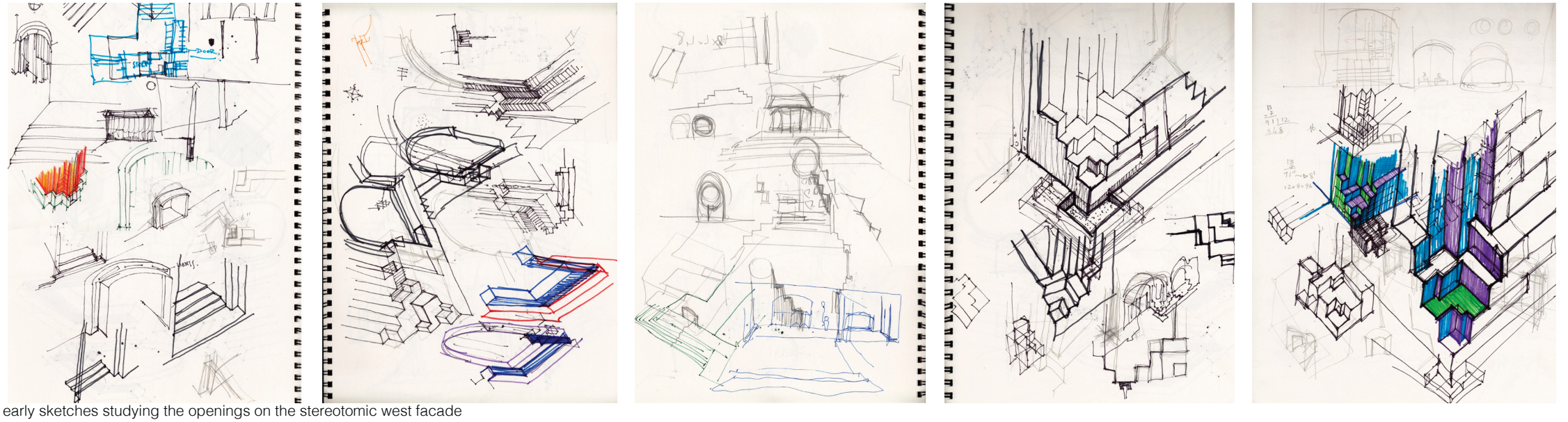


early plan drawing and sketches studying the brick layout for the stereotomic west facade

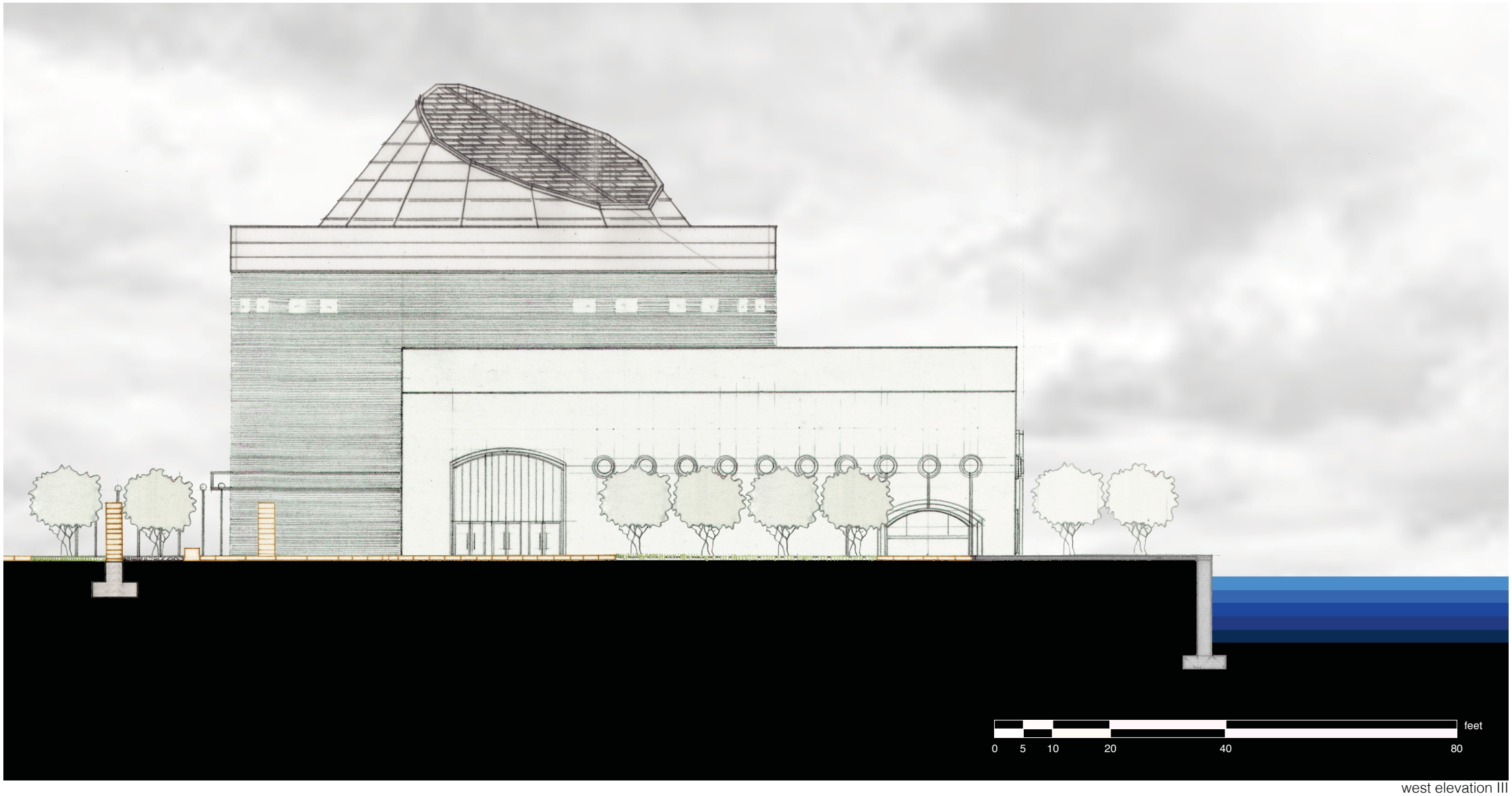


west elevation I

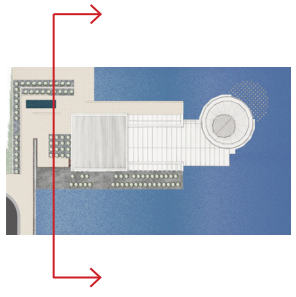


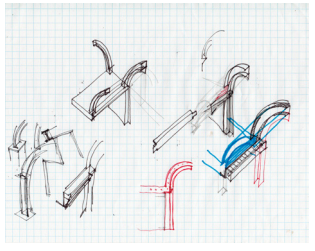
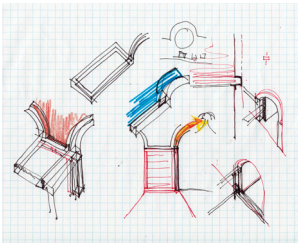


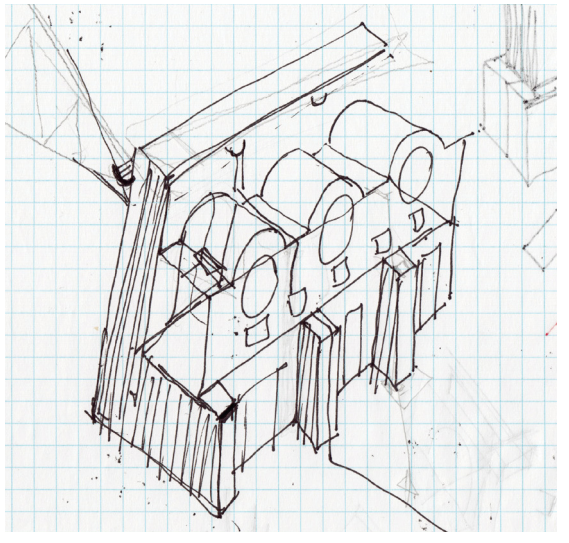
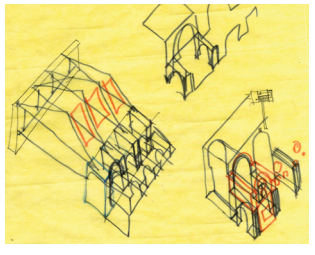
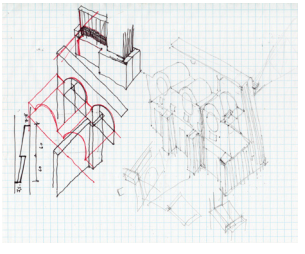
early sketches studying the openings on the stereotomic west facade

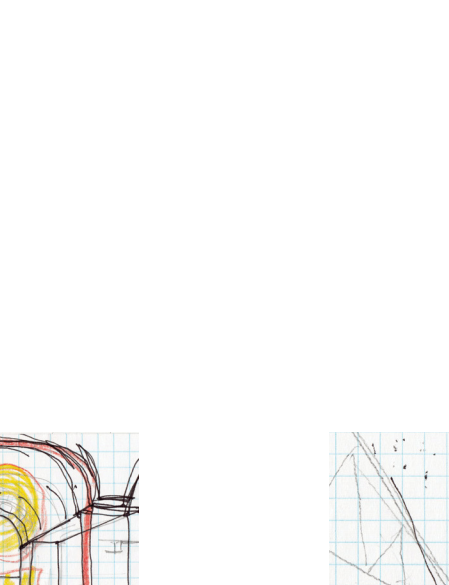


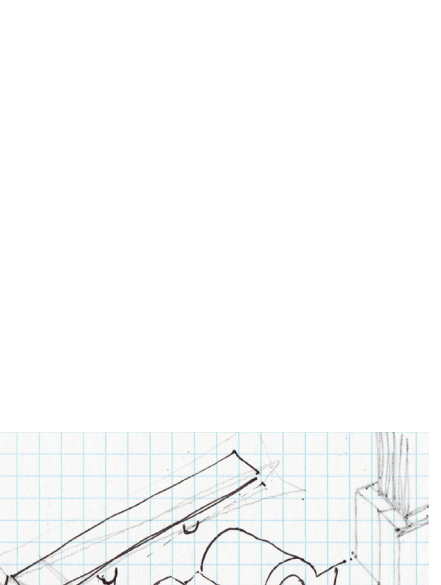
west elevation III



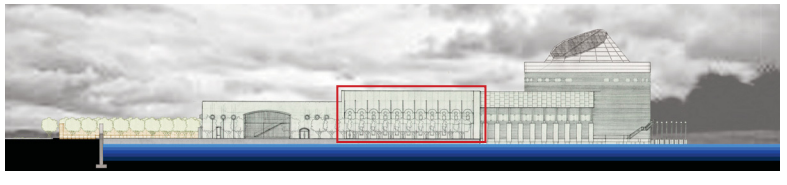



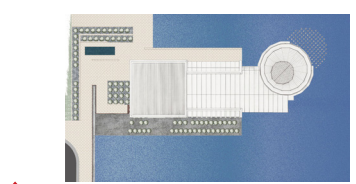


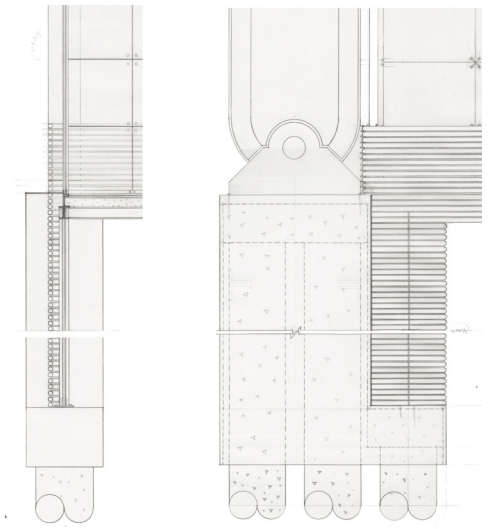


series of sketches studying the stereotomy / tectonics dichotomy of the arched bays located on the south elevation

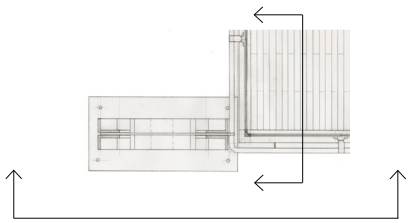


south elevation

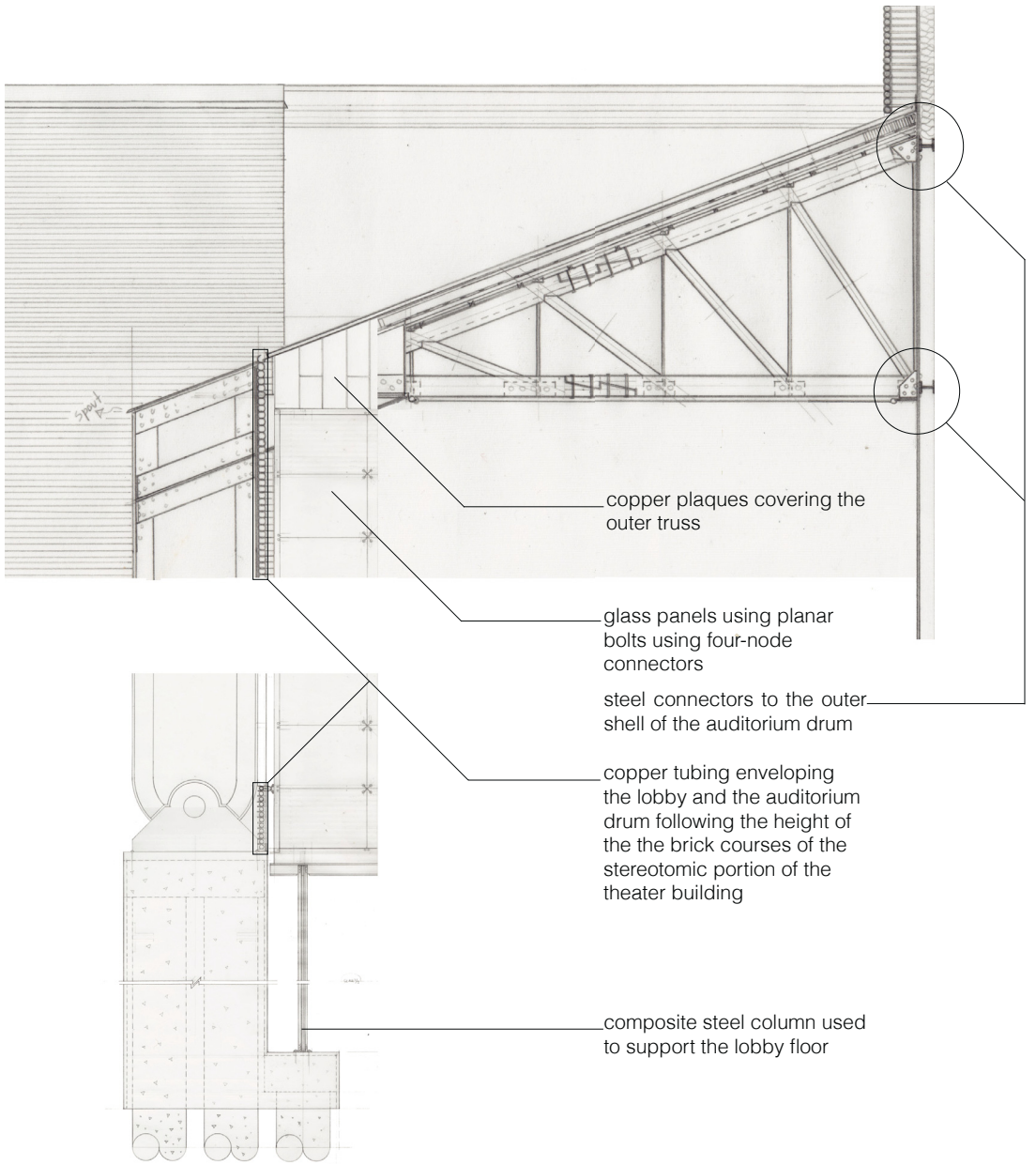




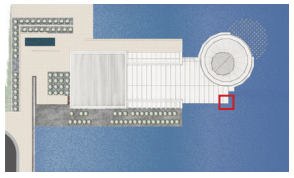
cross section elevation

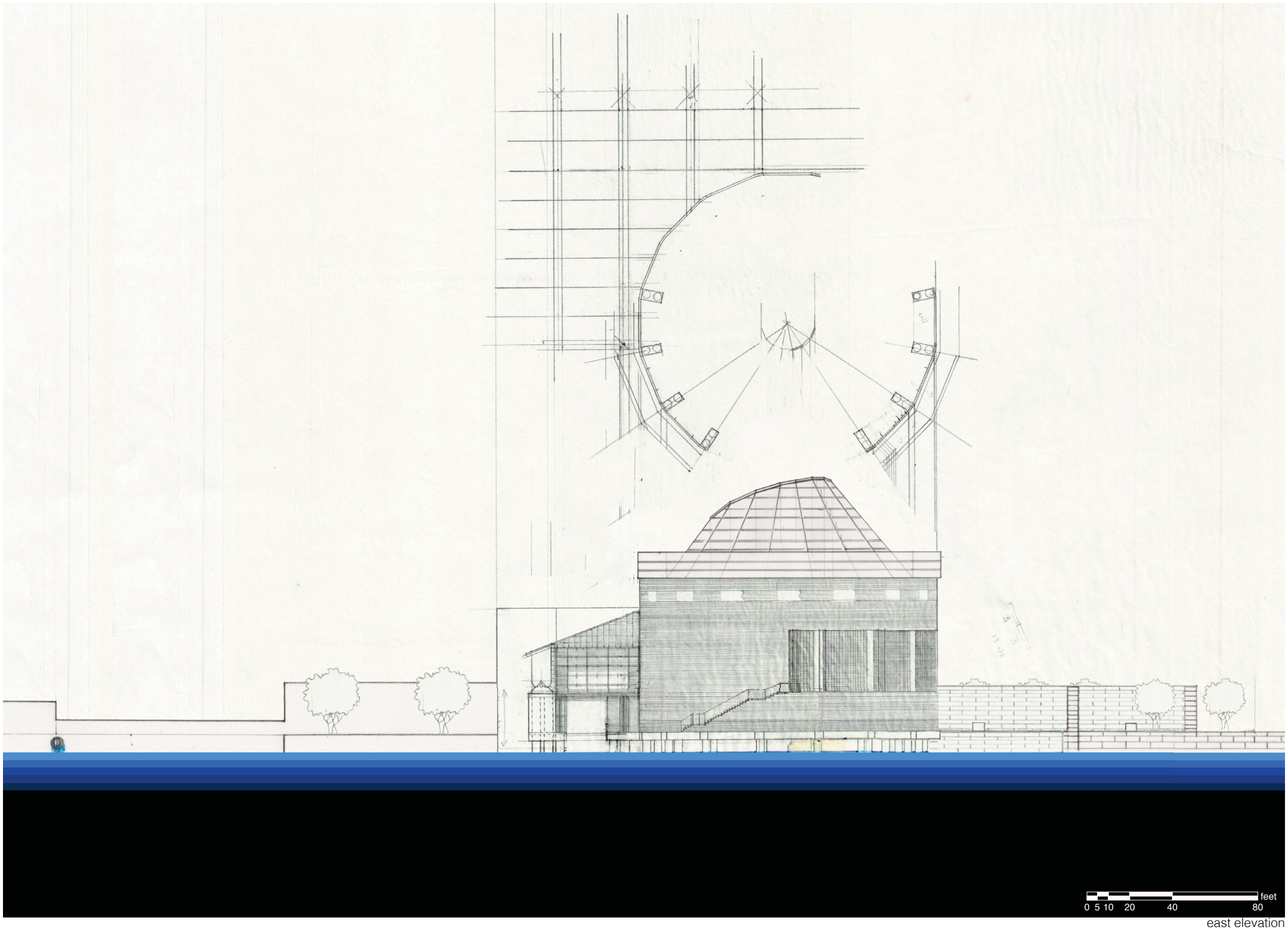


detail drawings of the southeast corner support structure

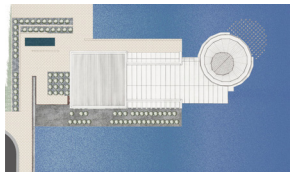


detail drawings of the east wall of the lobby behind the horizontal copper tubing enveloping the building

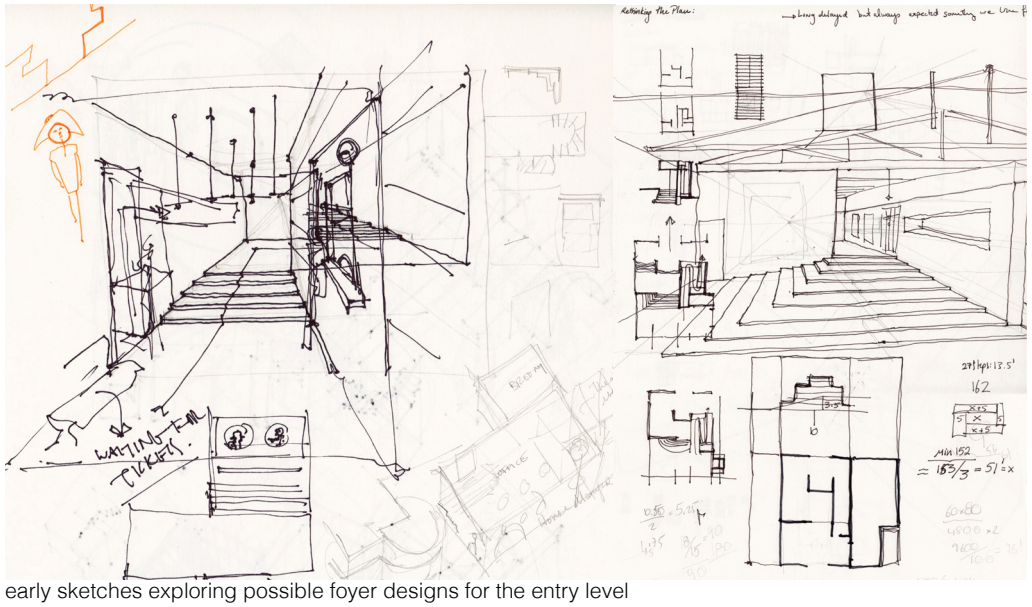




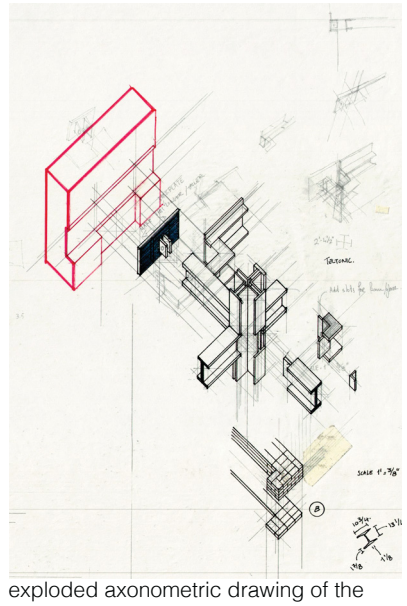
east elevation



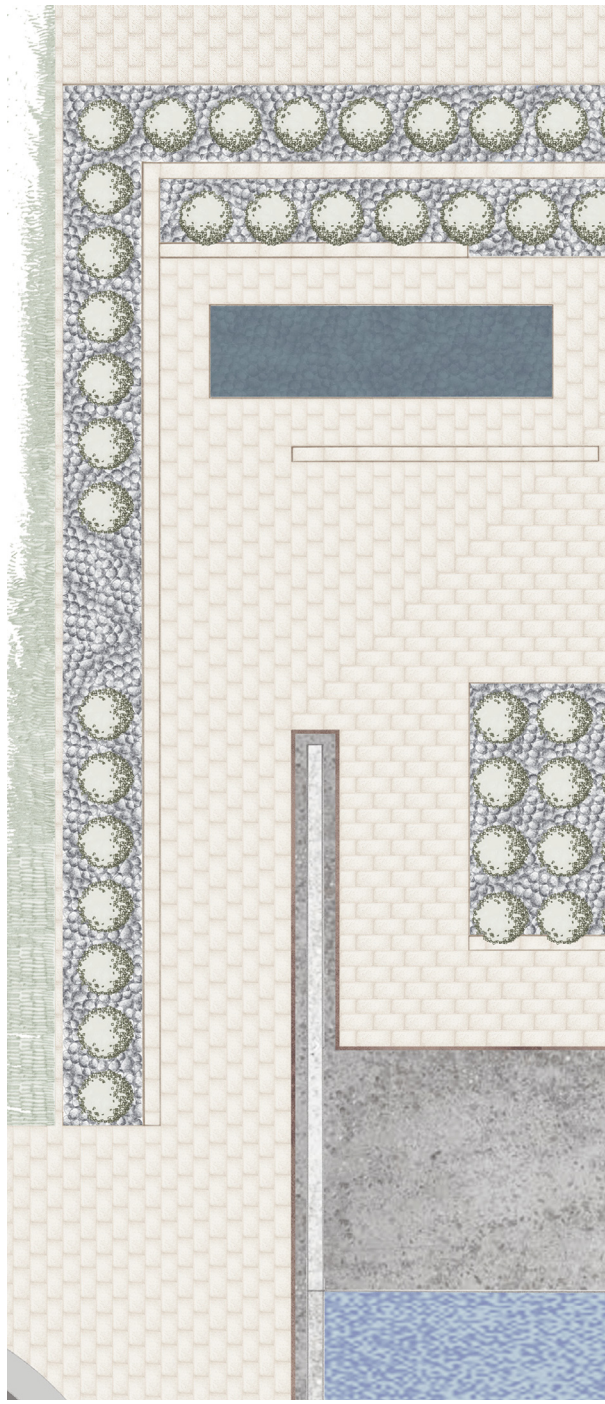
Plans

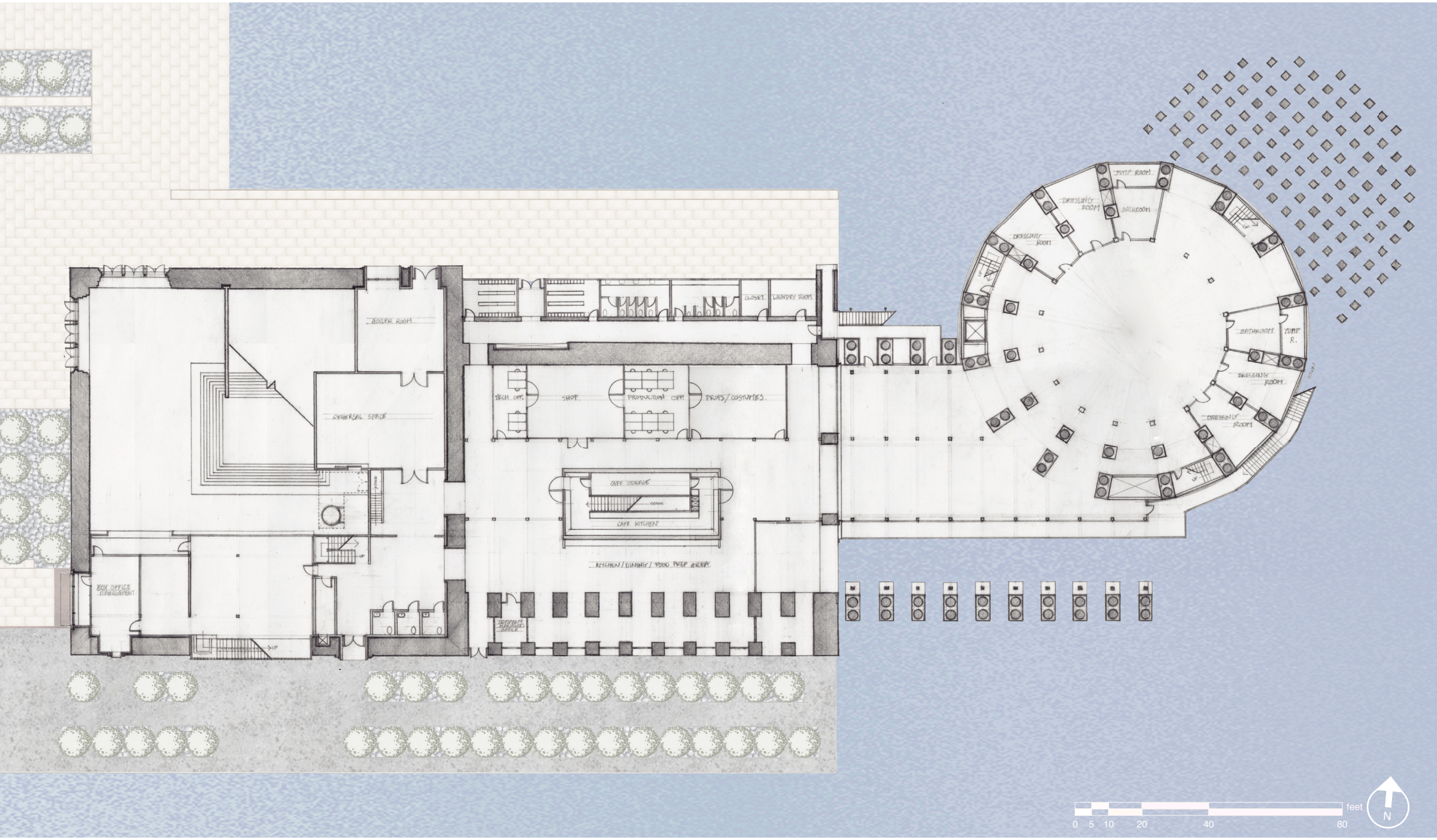


early sketches exploring possible foyer designs for the entry level

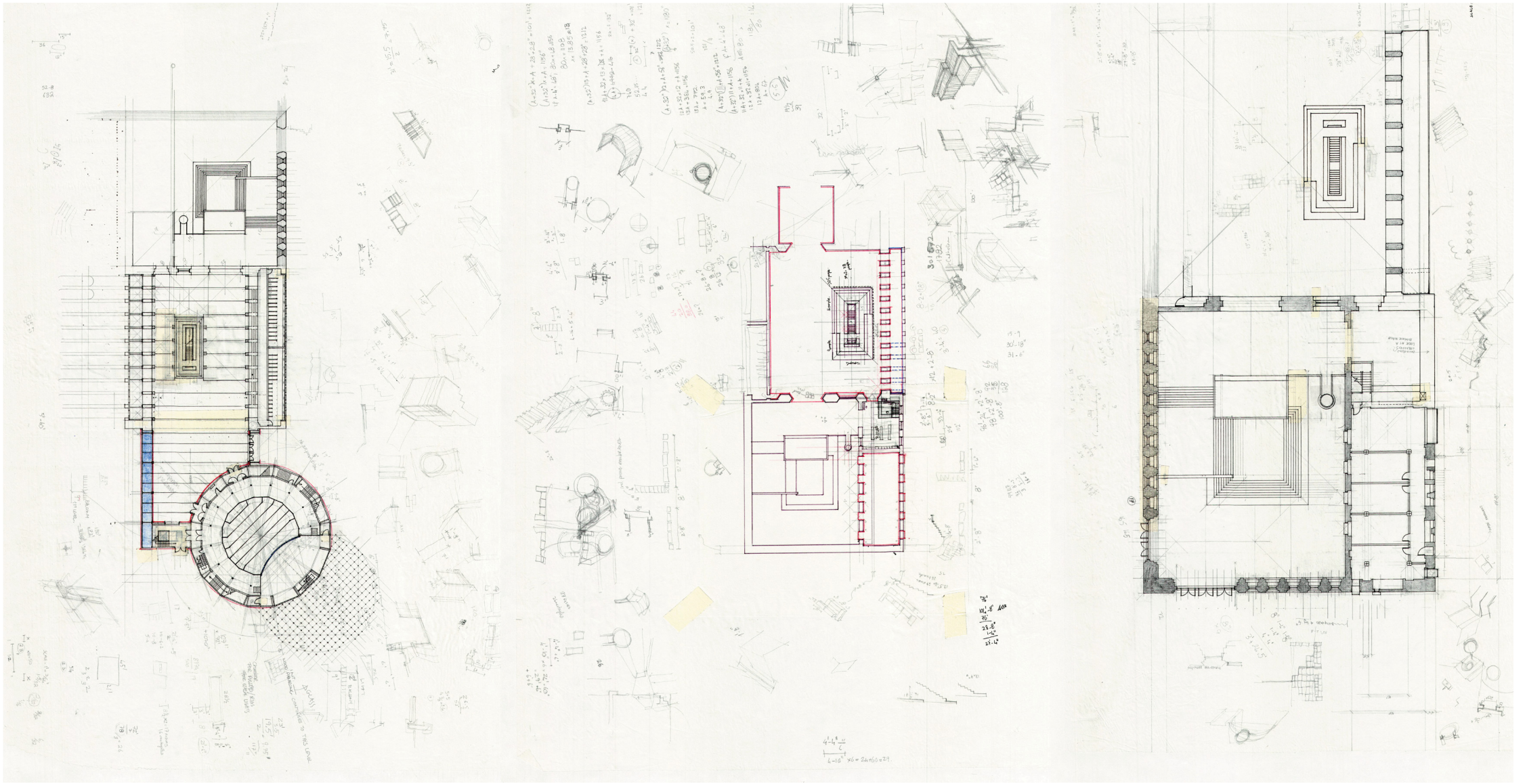


exploded axonometric drawing of the composite steel columns used in the entry level to support the lobby and management offices

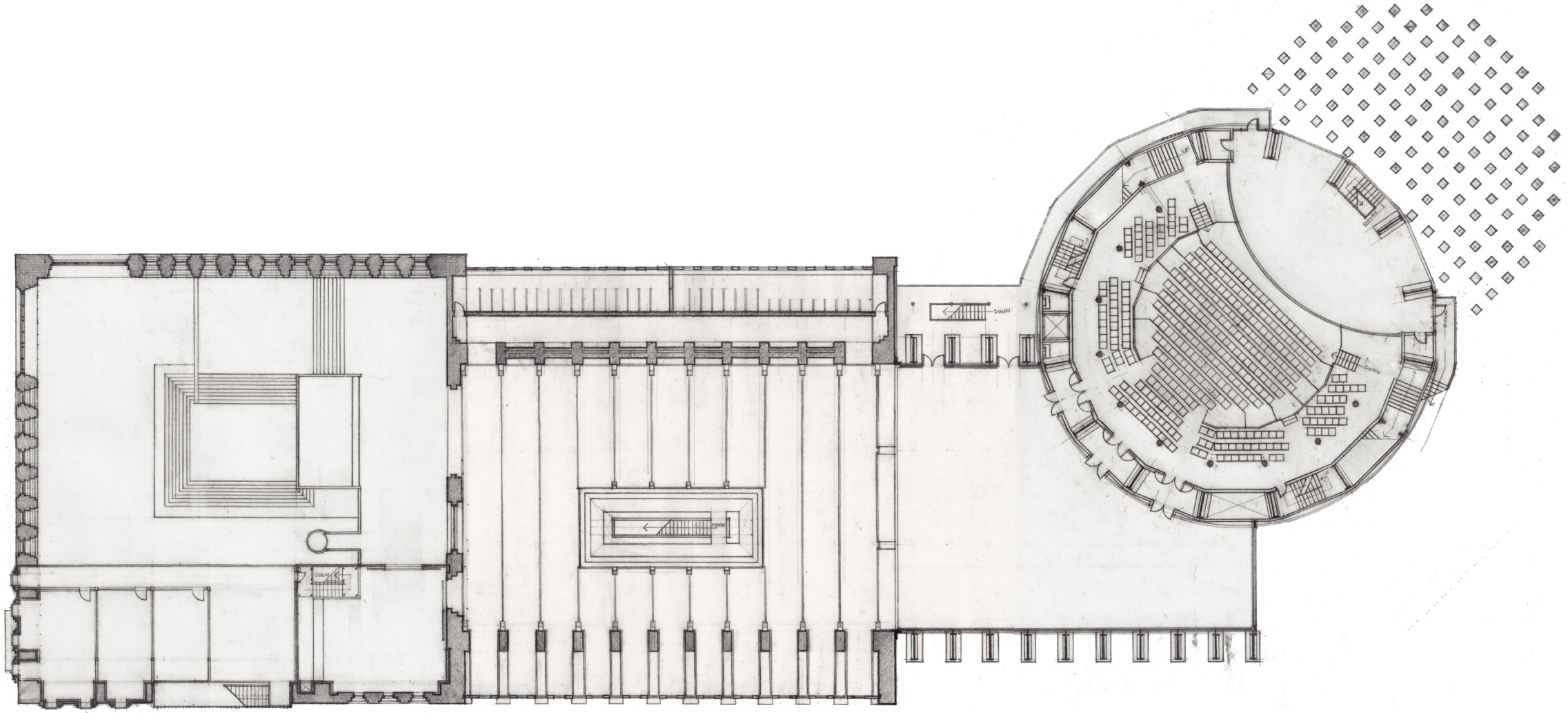




entry level plan



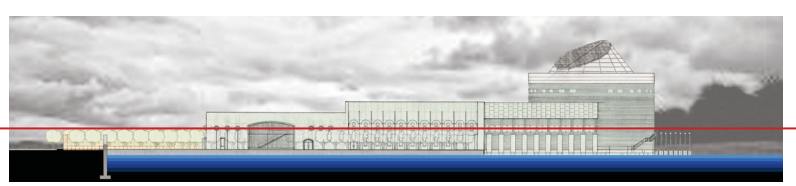
series of drawings exploring the detailing,design, and placement of the foyer and lobby with relation to the whole building

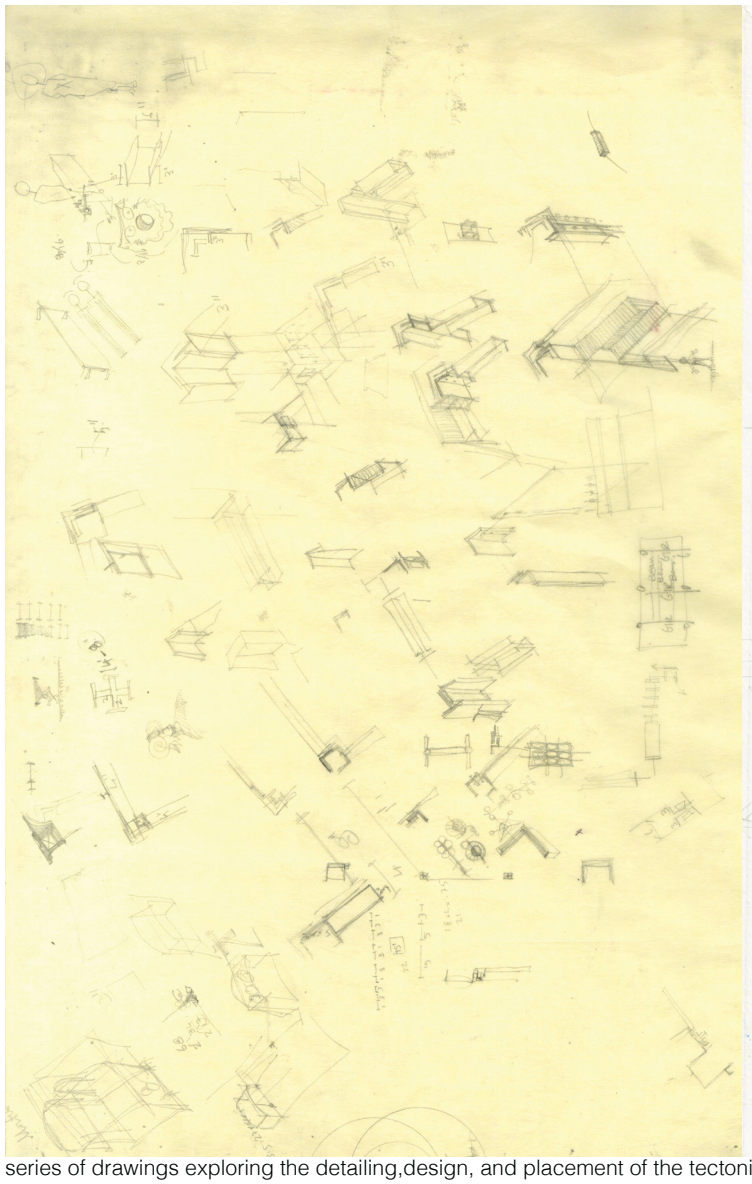


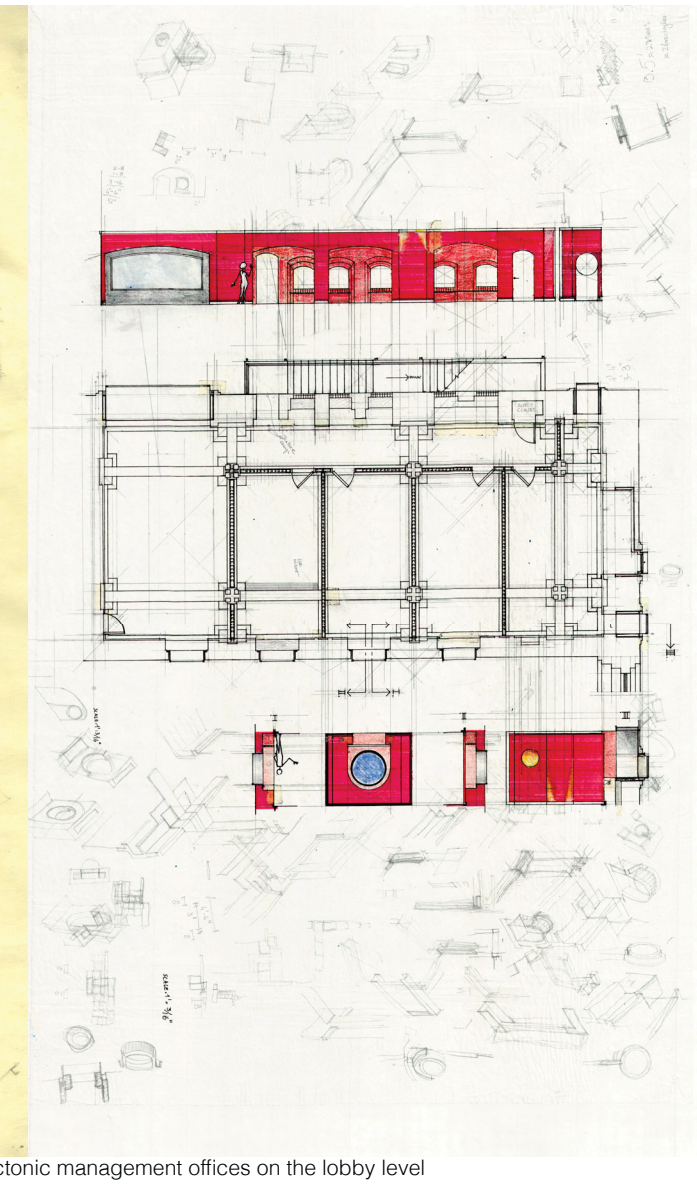
0 5 10 20 40 80 feet

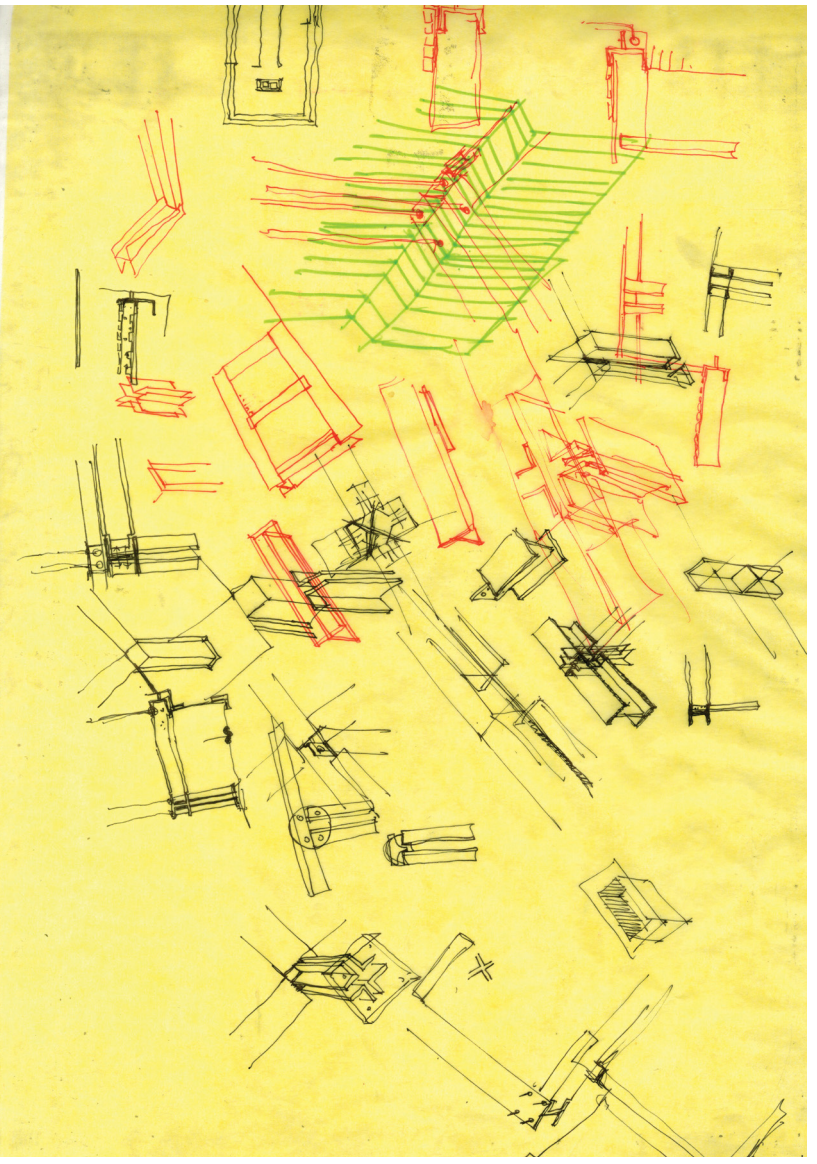
N

lobby level plan

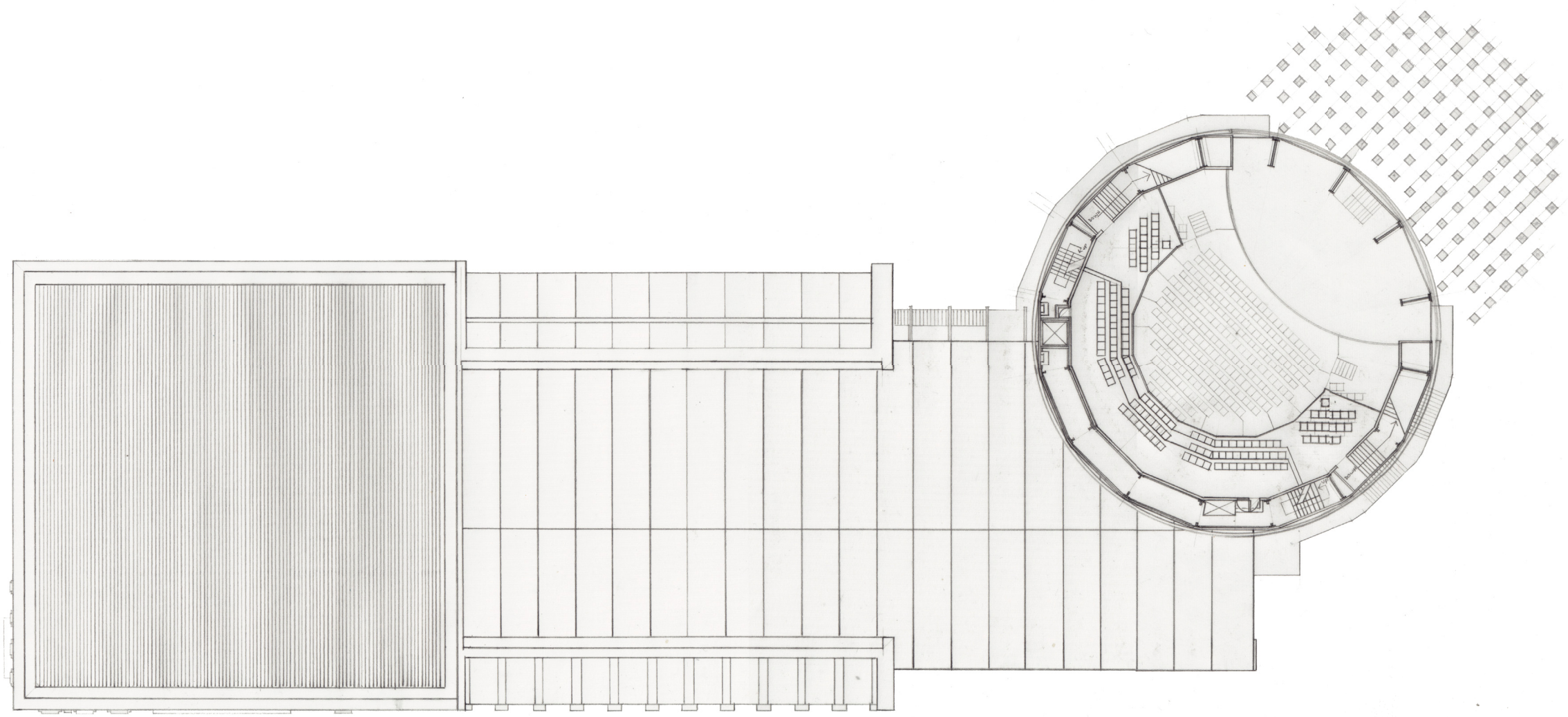








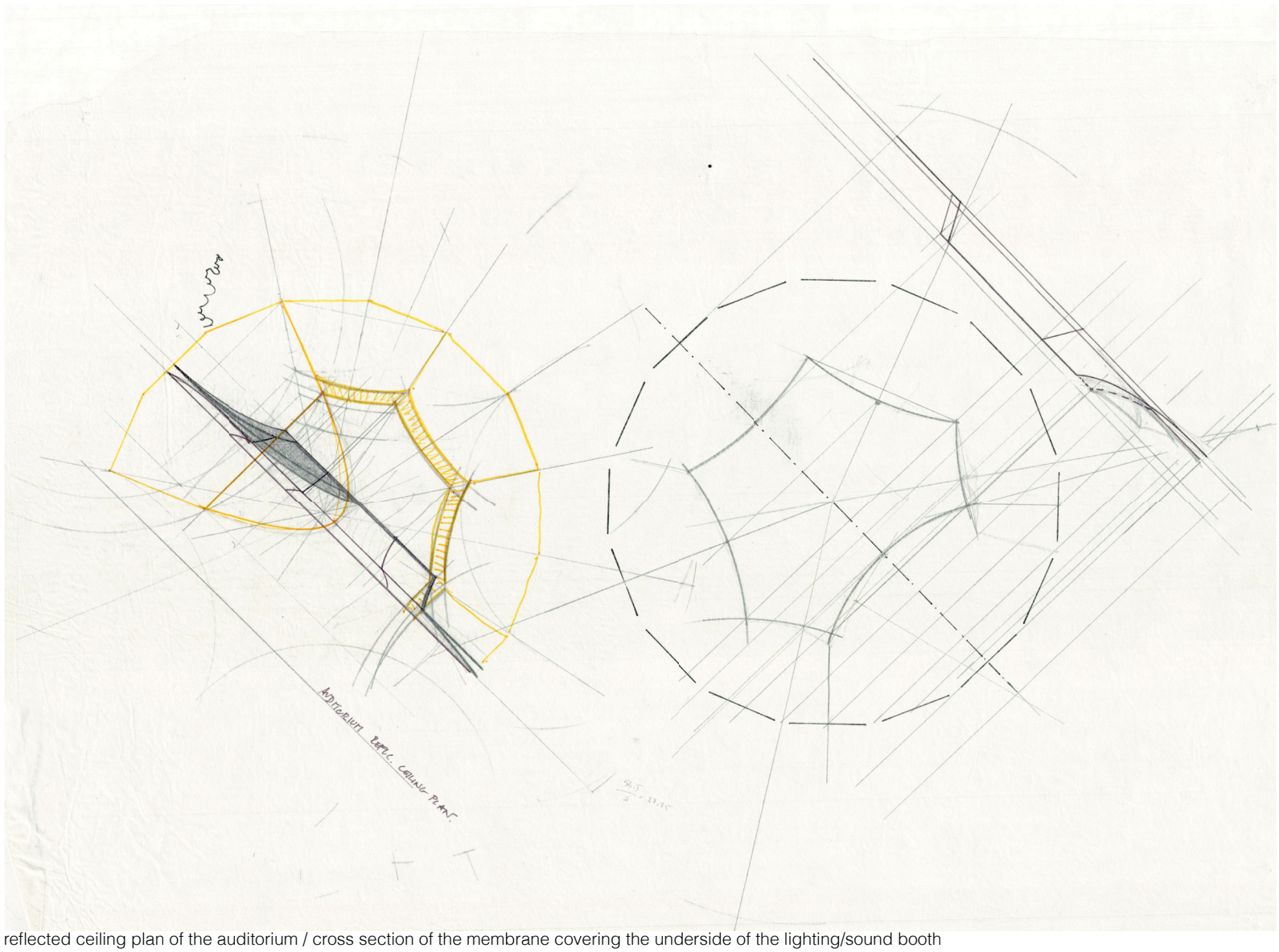
series of drawings exploring the detailing,design, and placement of the tectonic management offices on the lobby level



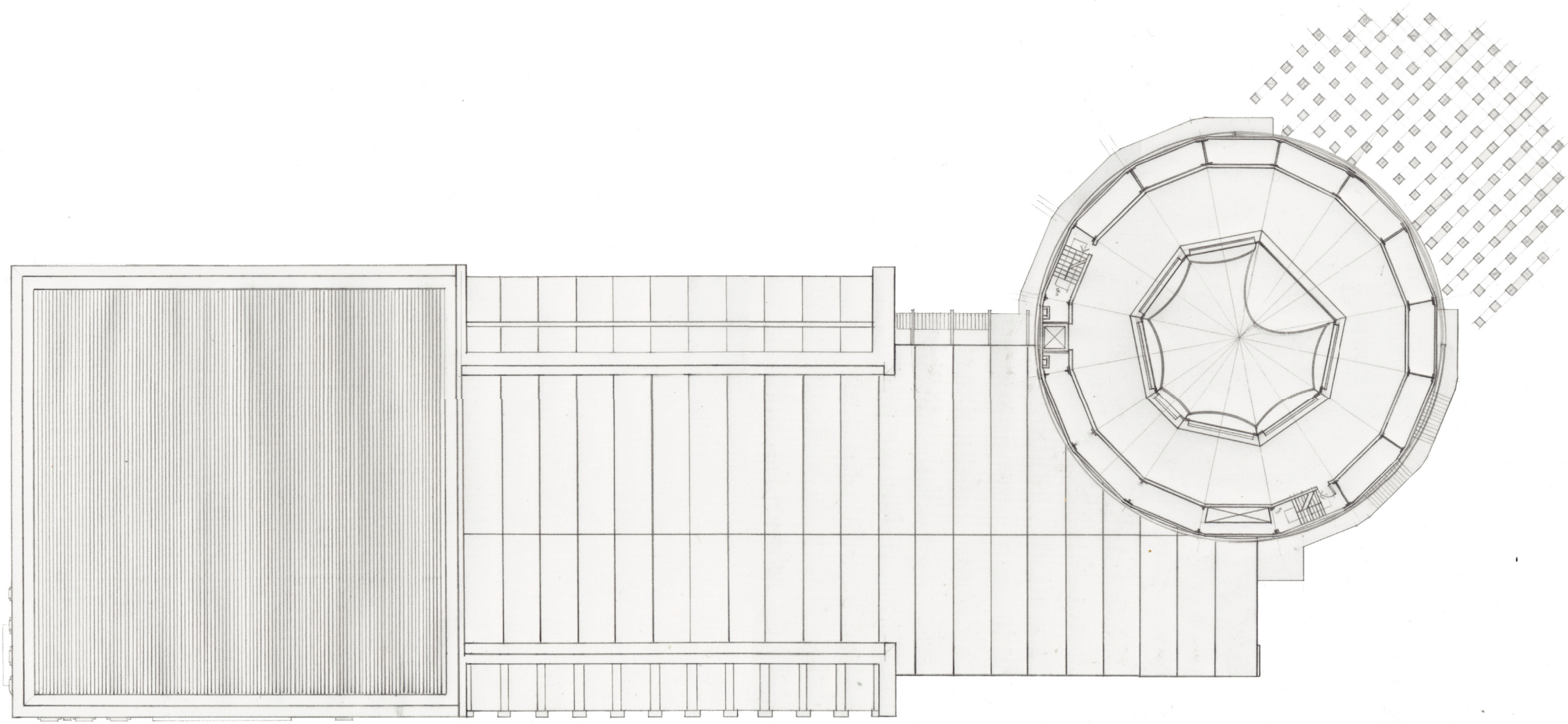
0 5 10 20 40 80 feet

N

auditorium balcony plan



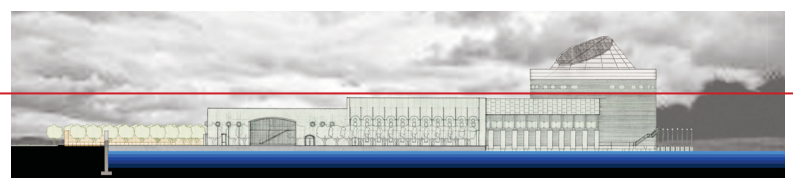
reflected ceiling plan of the auditorium / cross section of the membrane covering the underside of the lighting/sound booth

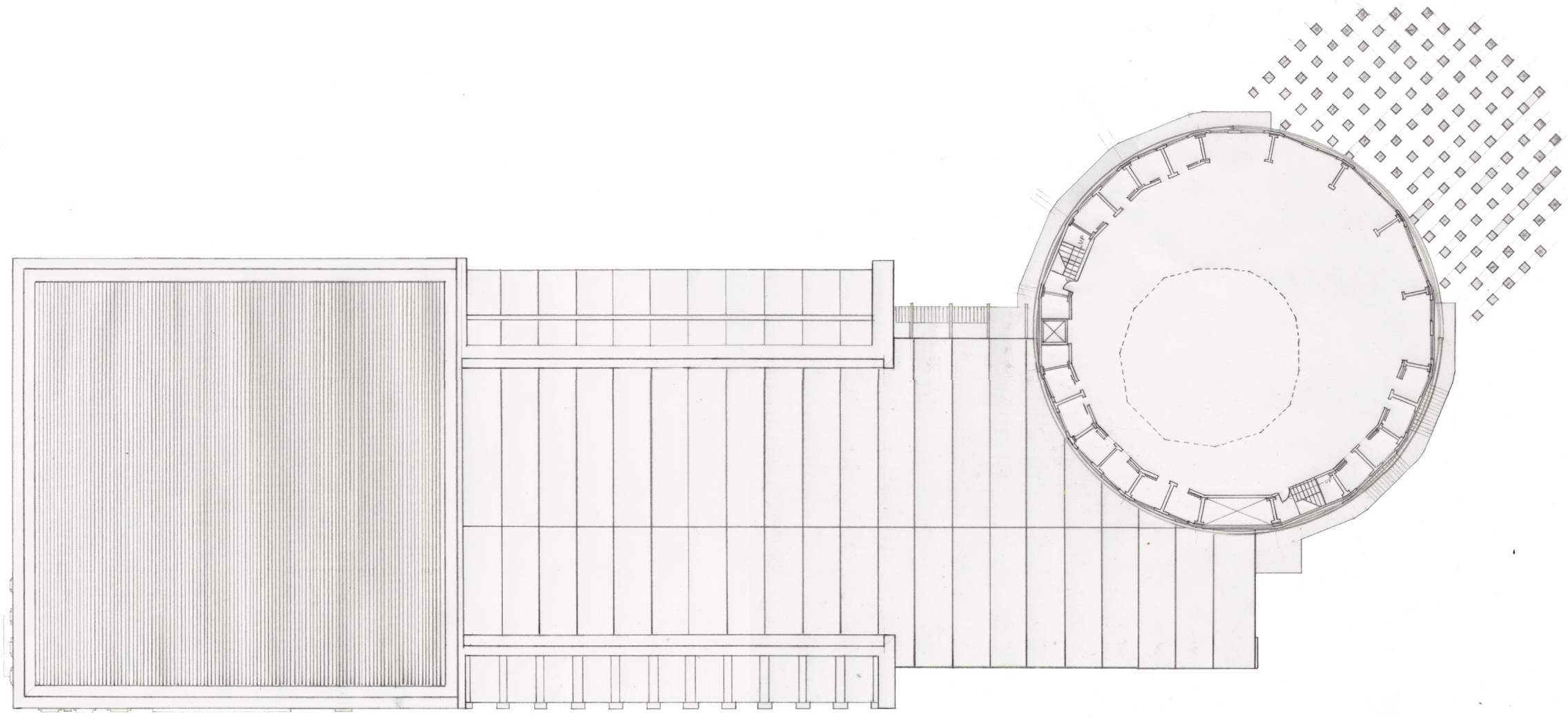


0 5 10 20 40 80 feet

N

lighting/sound booth plan

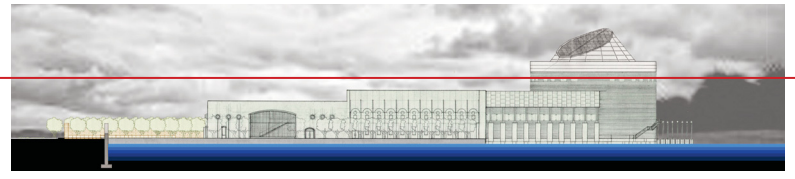




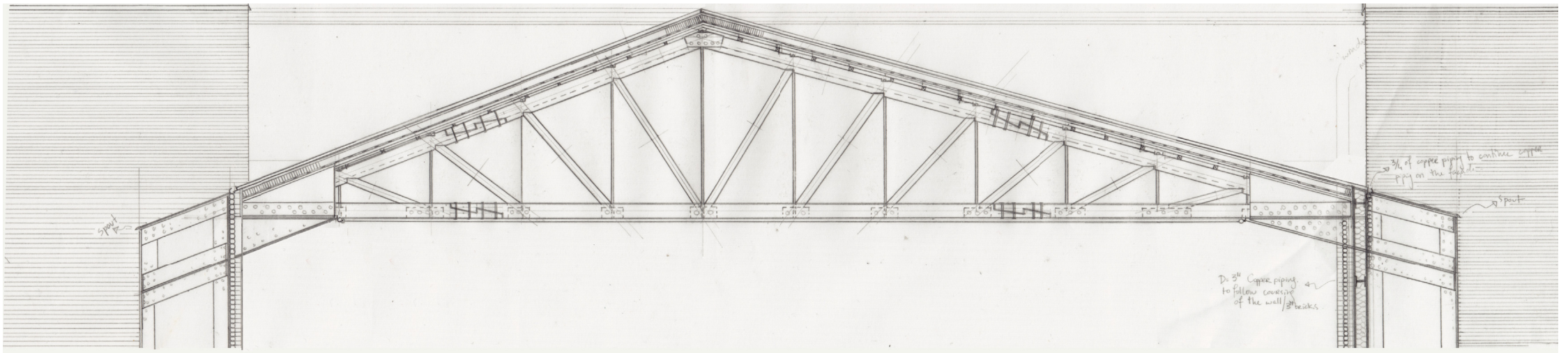
0 5 10 20 40 80 feet

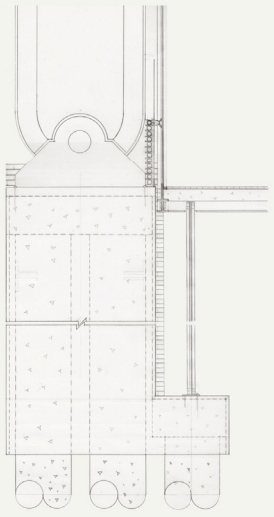
N

library plan

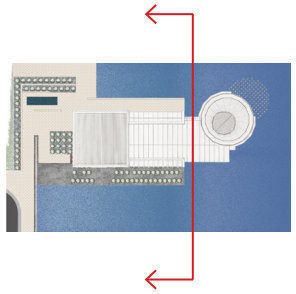


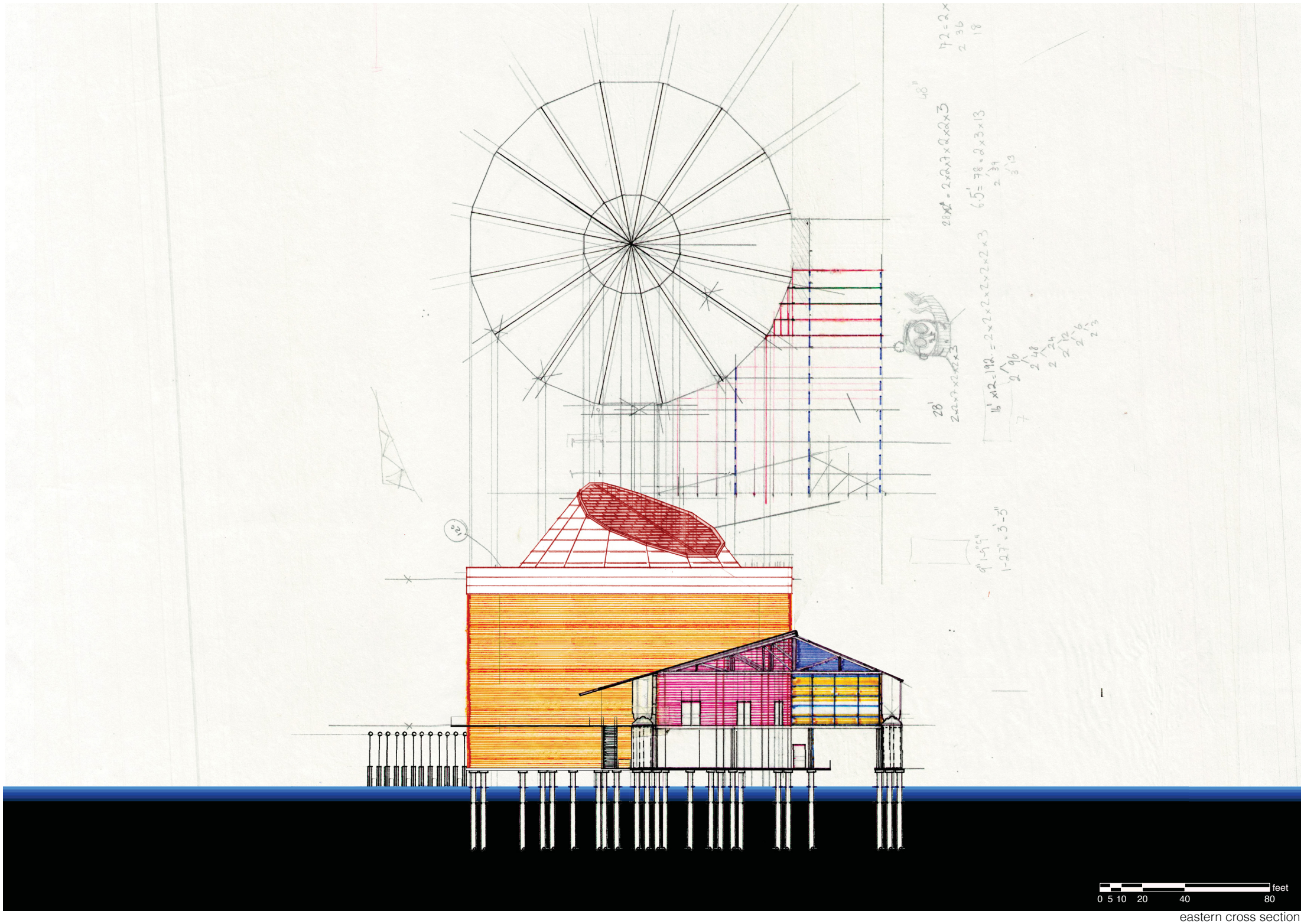
Cross Sections



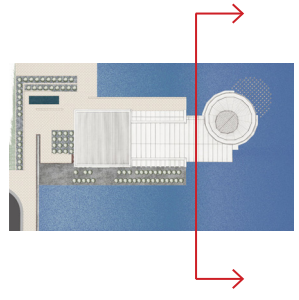


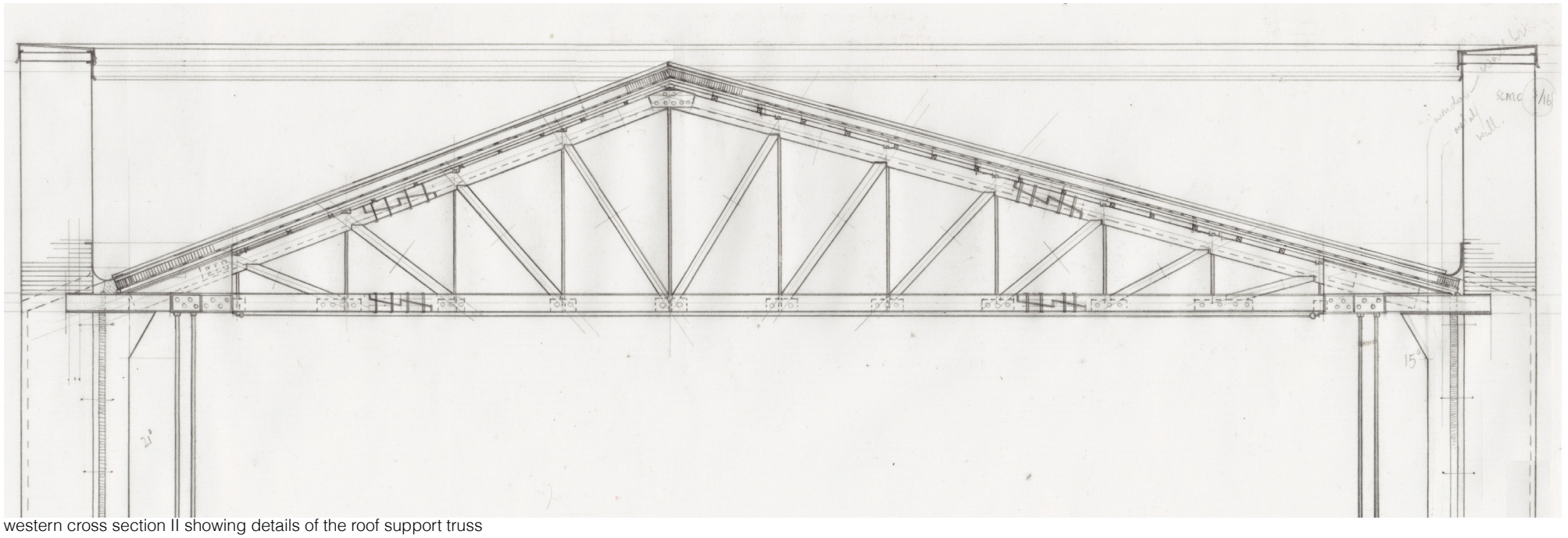
western cross section I showing details of the roof support truss and its support structure in the tectonic portion of the building



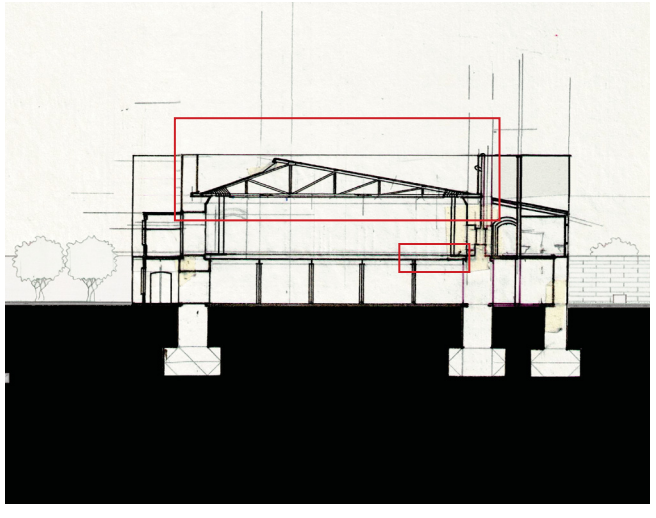


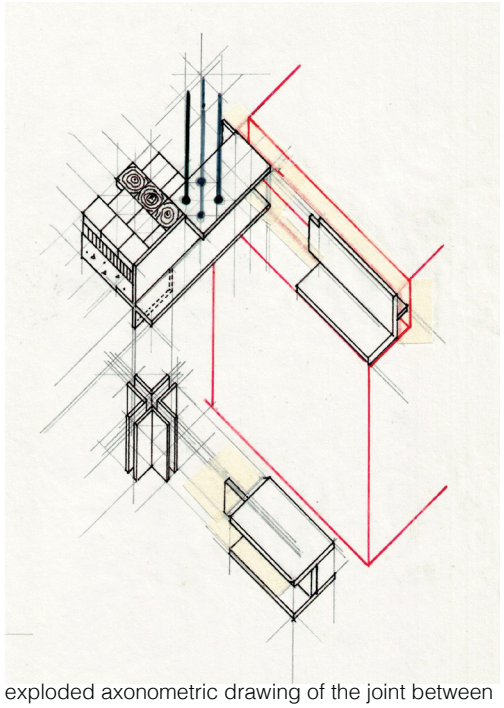
eastern cross section



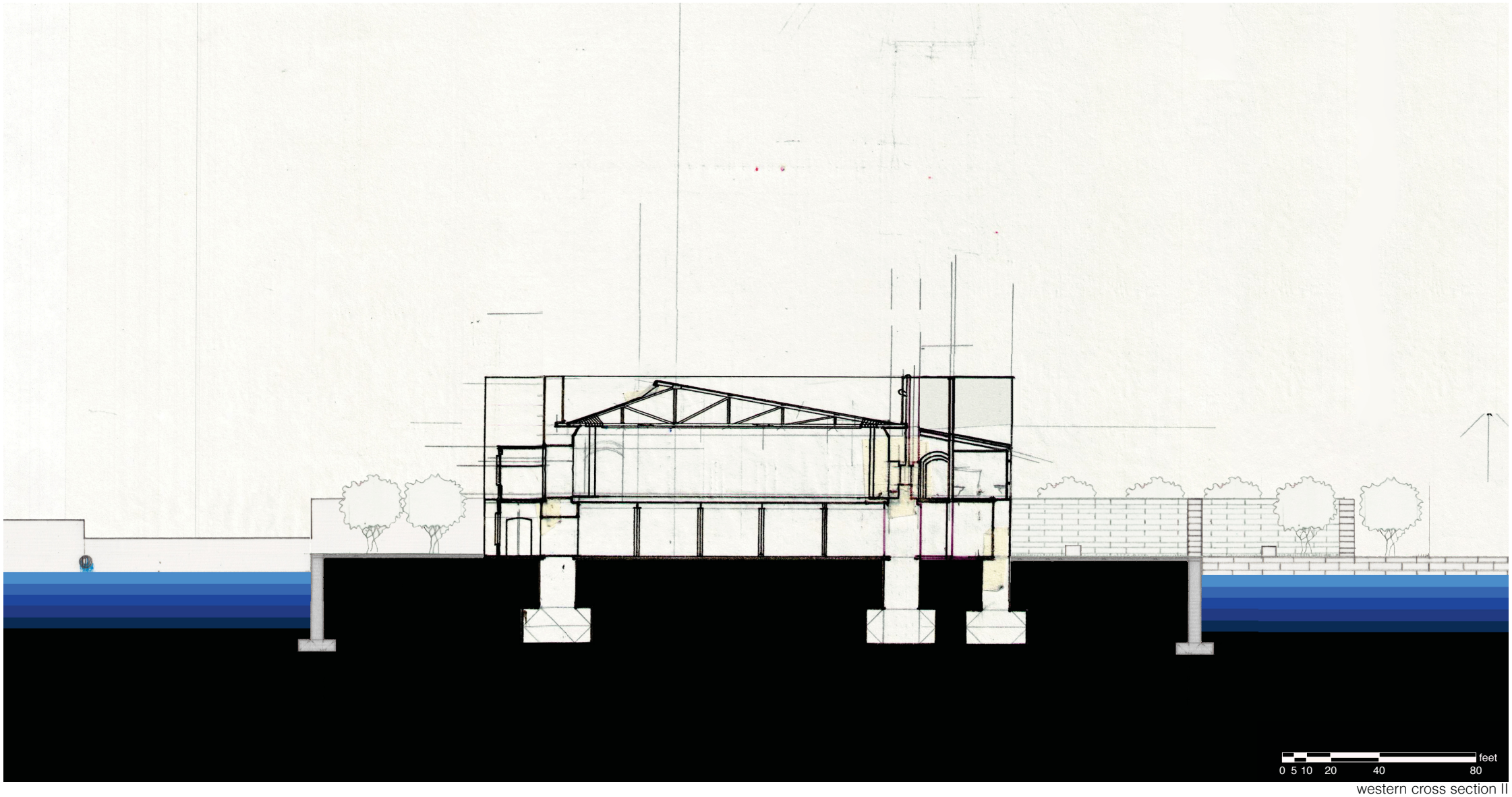


western cross section II showing details of the roof support truss

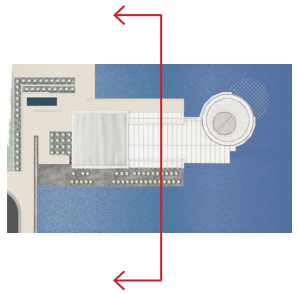


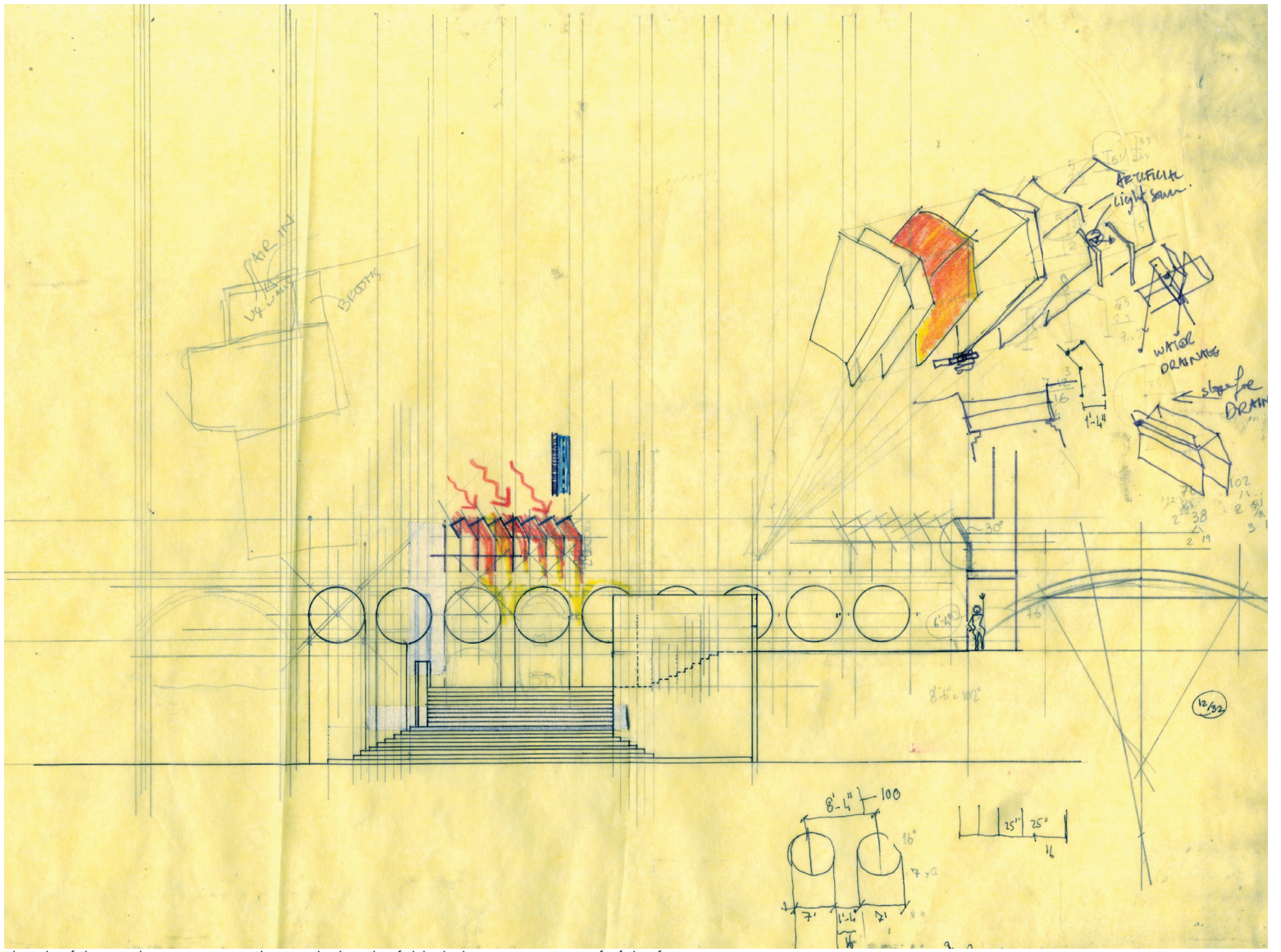


exploded axonometric drawing of the joint between the lobby floor and its support structure including cables used to attach the floor beams to the roof trusses and the composite steel columns used for support from below

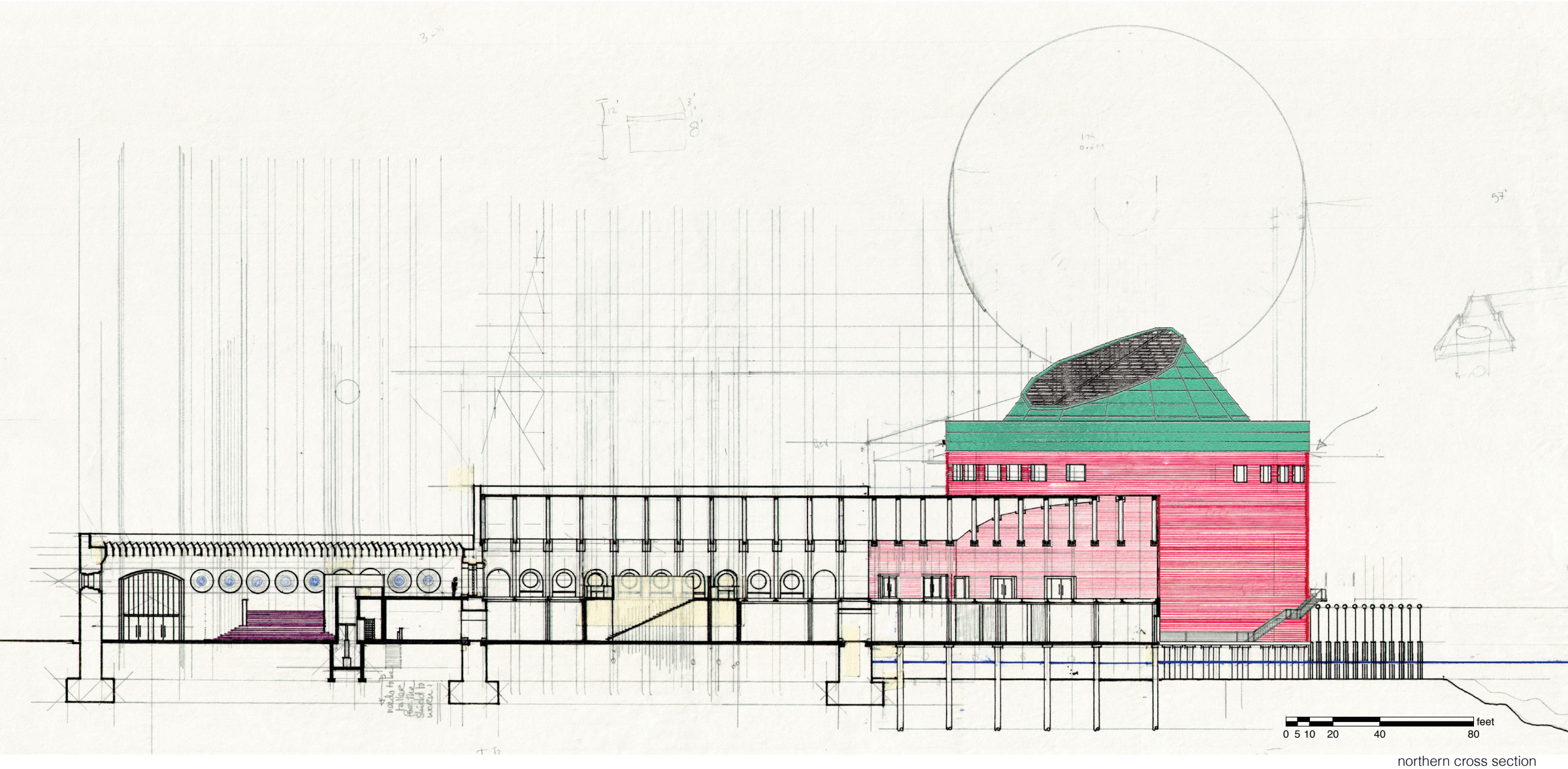


western cross section II

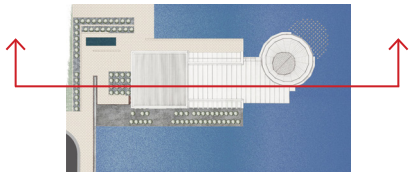




sketch of the northern cross section analyzing the folded plane concrete roof of the foyer



northern cross section

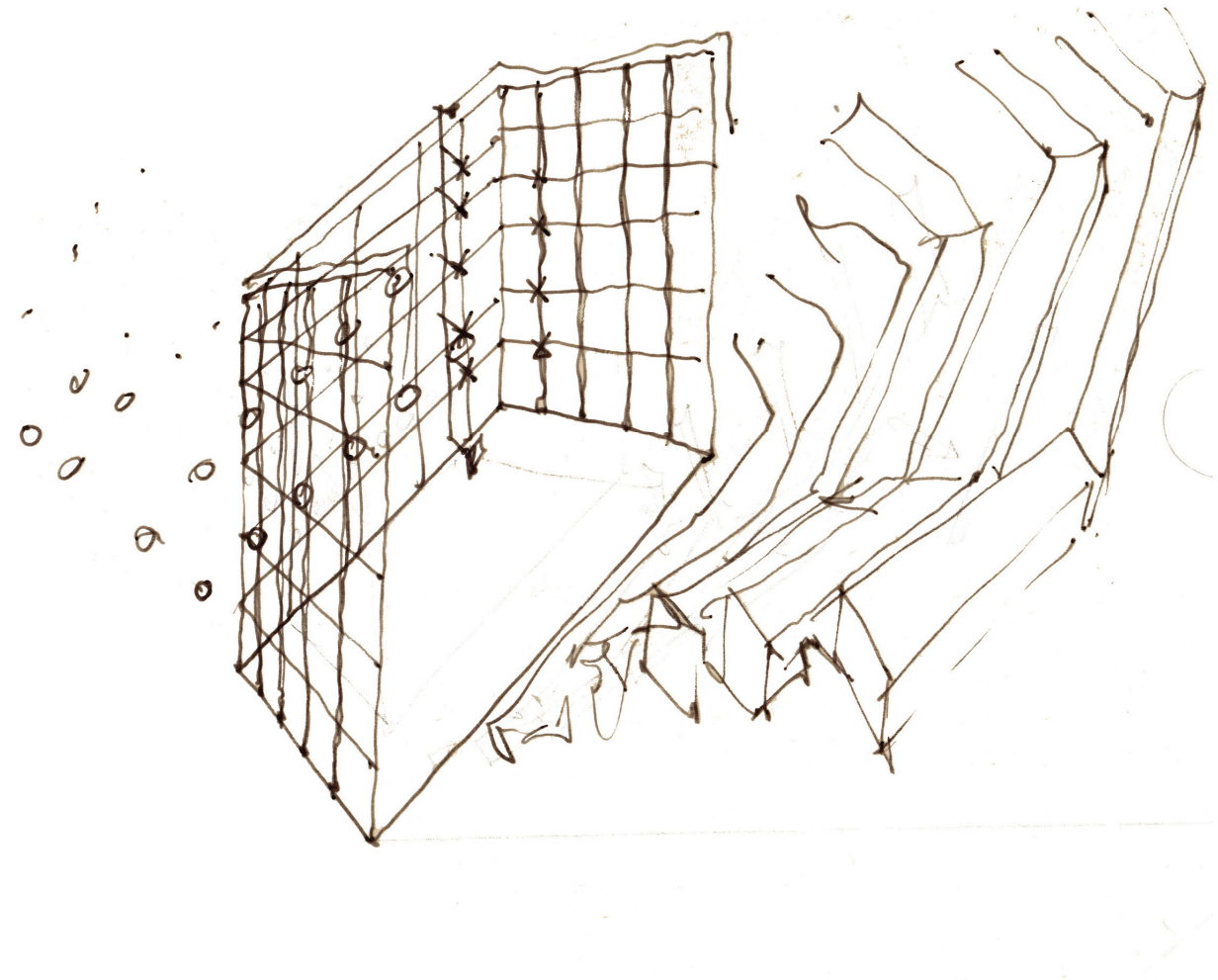


THE AUDITORIUM

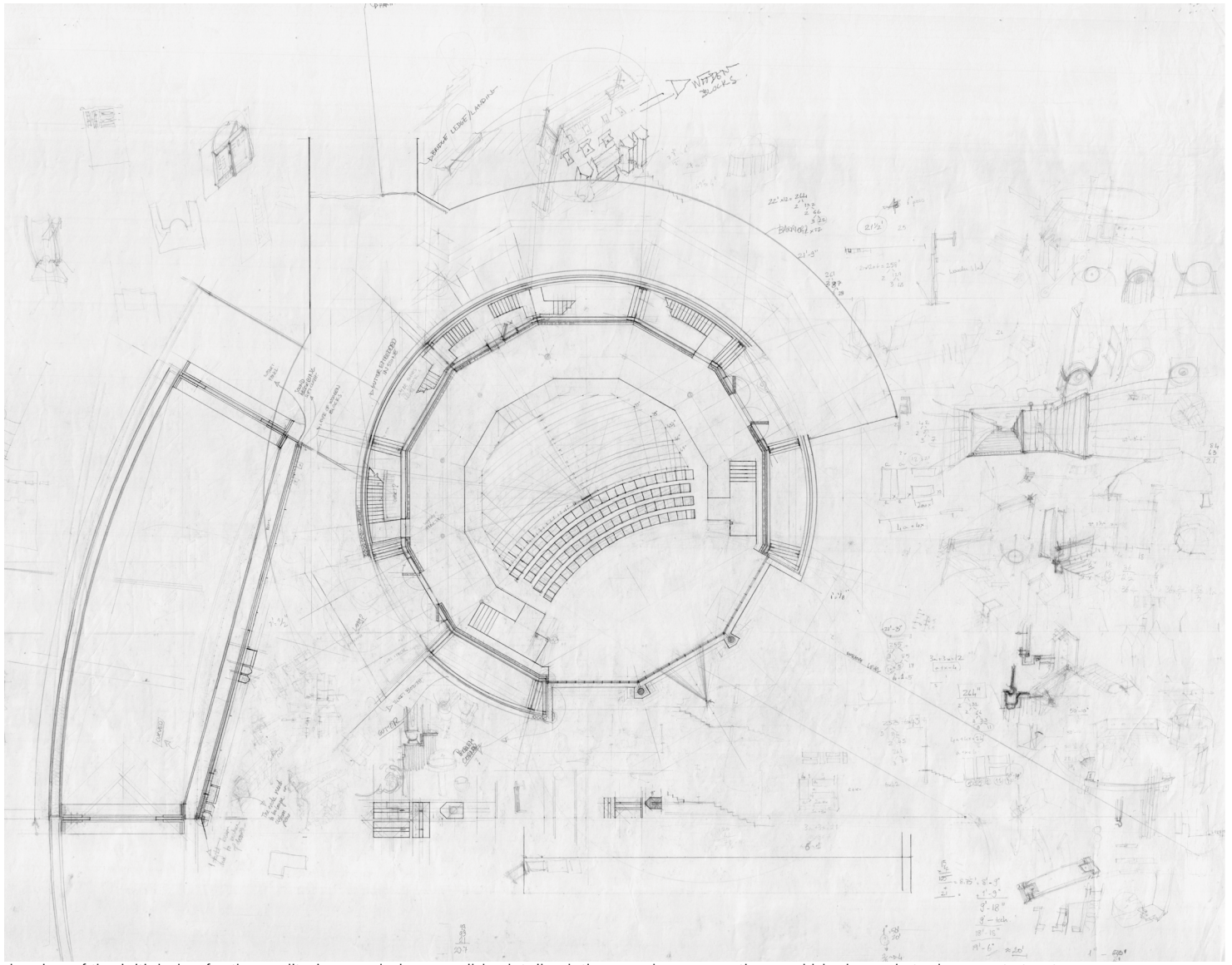
Kurt Vonnegut Jr.'s take on the homecoming myth of the Odyssey, "Happy Birthday, Wanda June", is a "play about men who enjoy killing." Thus it should not come as a surprise that the seventh scene of the first act is entirely dedicated to a monologue by Major Siegfried Von Konigswald, an SS officer that has killed more than twenty thousand people and is currently residing in heaven.

In his speech, Von Konigswald, also known as the Beast of Yugoslavia, provides a ridiculously detailed description of the atrocities he has committed during the Second World War, slowly augmenting their vicious nature as the scene develops. However, it has been my personal experience that due to Vonnegut's sardonic wit and the intimacy an actor can create by directly addressing the audience, after the first beat of the Beast's speech, the audience generally erupts in laughter. Incensed by the audience's reaction, Von Konigswald gets angry and narrates the pursuant anecdote with increasing rage, which is met with further laughter and ridicule, which in turn further fuels the Beast's rage as he continues to deliver the monologue. This exchange between actor and audience continues until the end of the scene, recalling what the great theater director Peter Brook calls "the two-way current" in his book The Empty Space.

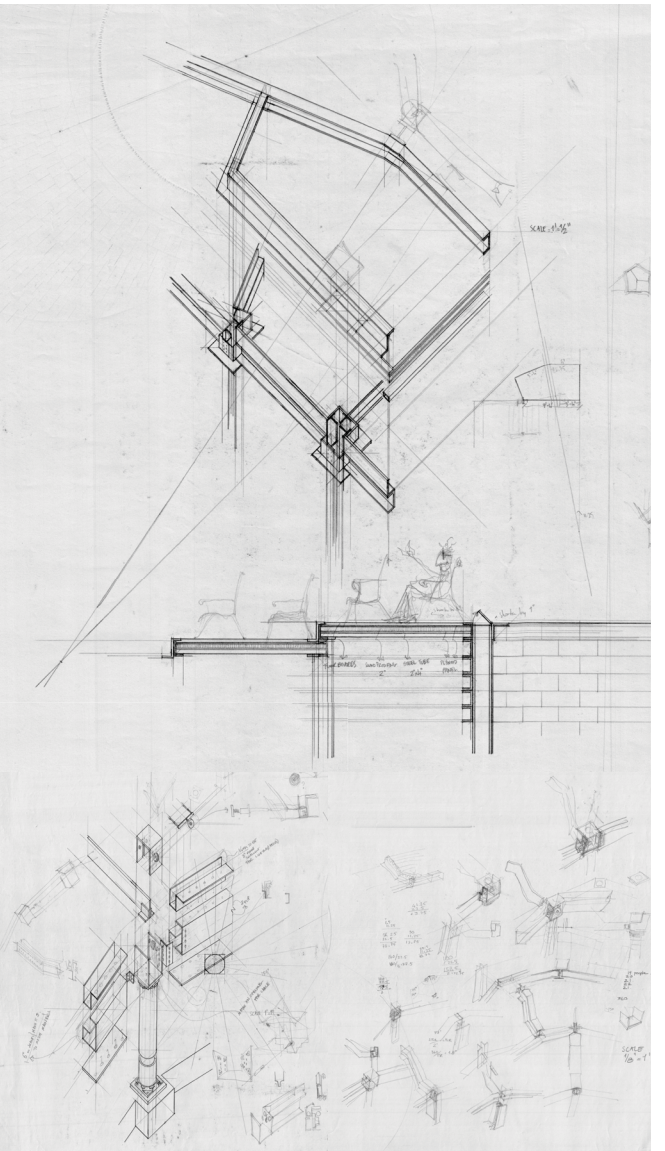
Such reciprocity necessitates the presence of an audience, making theater unique among other art forms. Thus in order to ensure the success of such an endeavor, the architect should prioritize maintaining the intimacy of the exchange between actor and spectator, making away with the barriers that have been traditionally placed between the two in western theater: the orchestra pit, the proscenium arch, the curtain, the scenery and any of the stage machinery associated with modern productions, paring the whole establishment down to a lit stage, the actor, and the audience. The auditorium proposed herein examines the architectonic means through which such purism can be provided for.



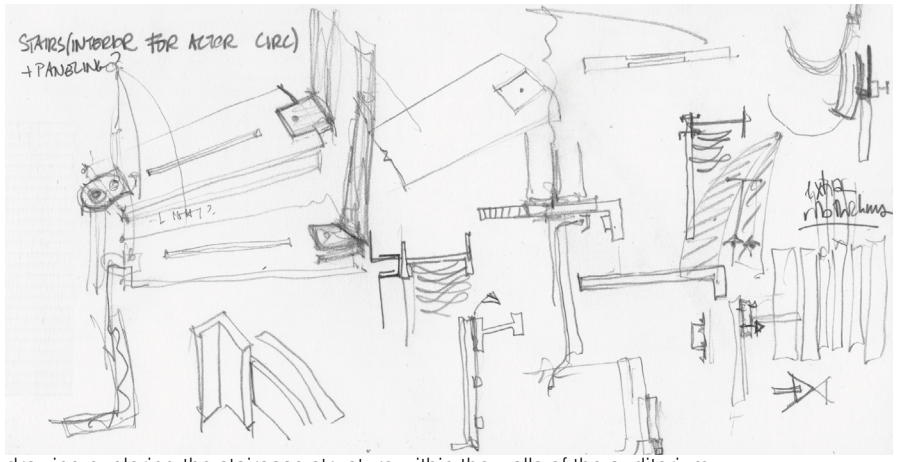
early conceptual sketch of the auditorium stage with the lights on the water extending beyond the stage



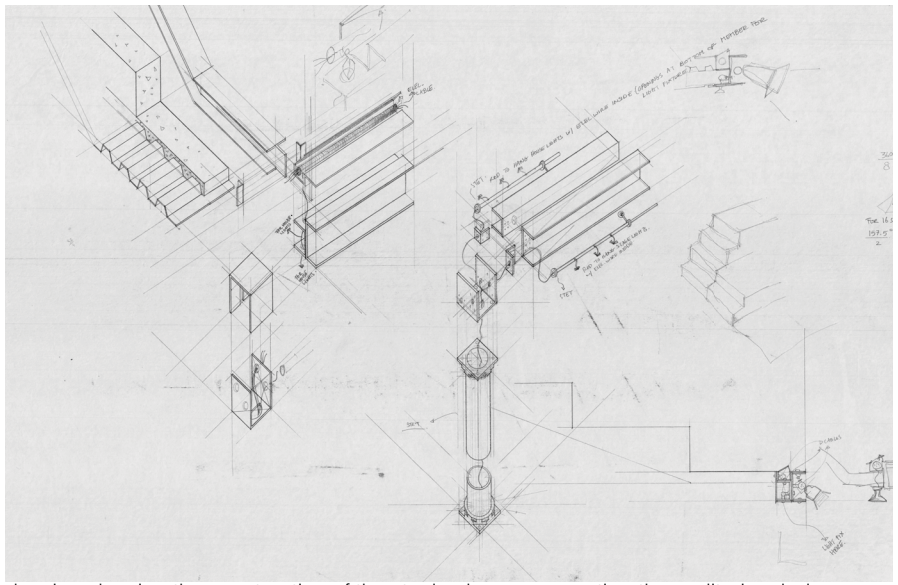
drawing of the initial plan for the auditorium exploring possible detail solutions such as acoustic wood blocks and steel support structure

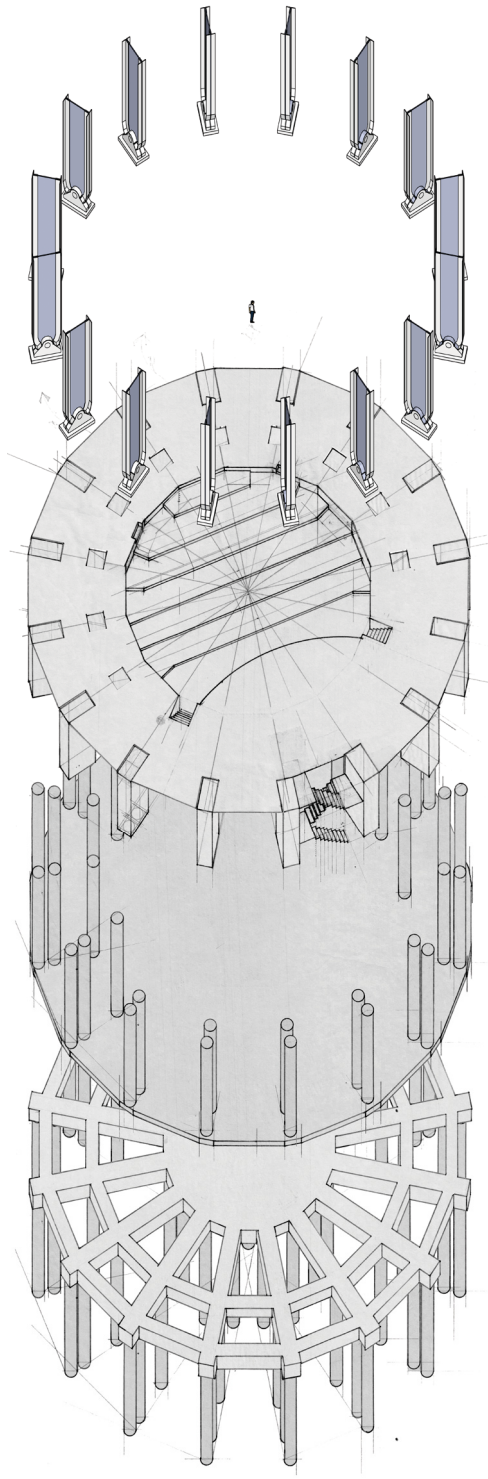


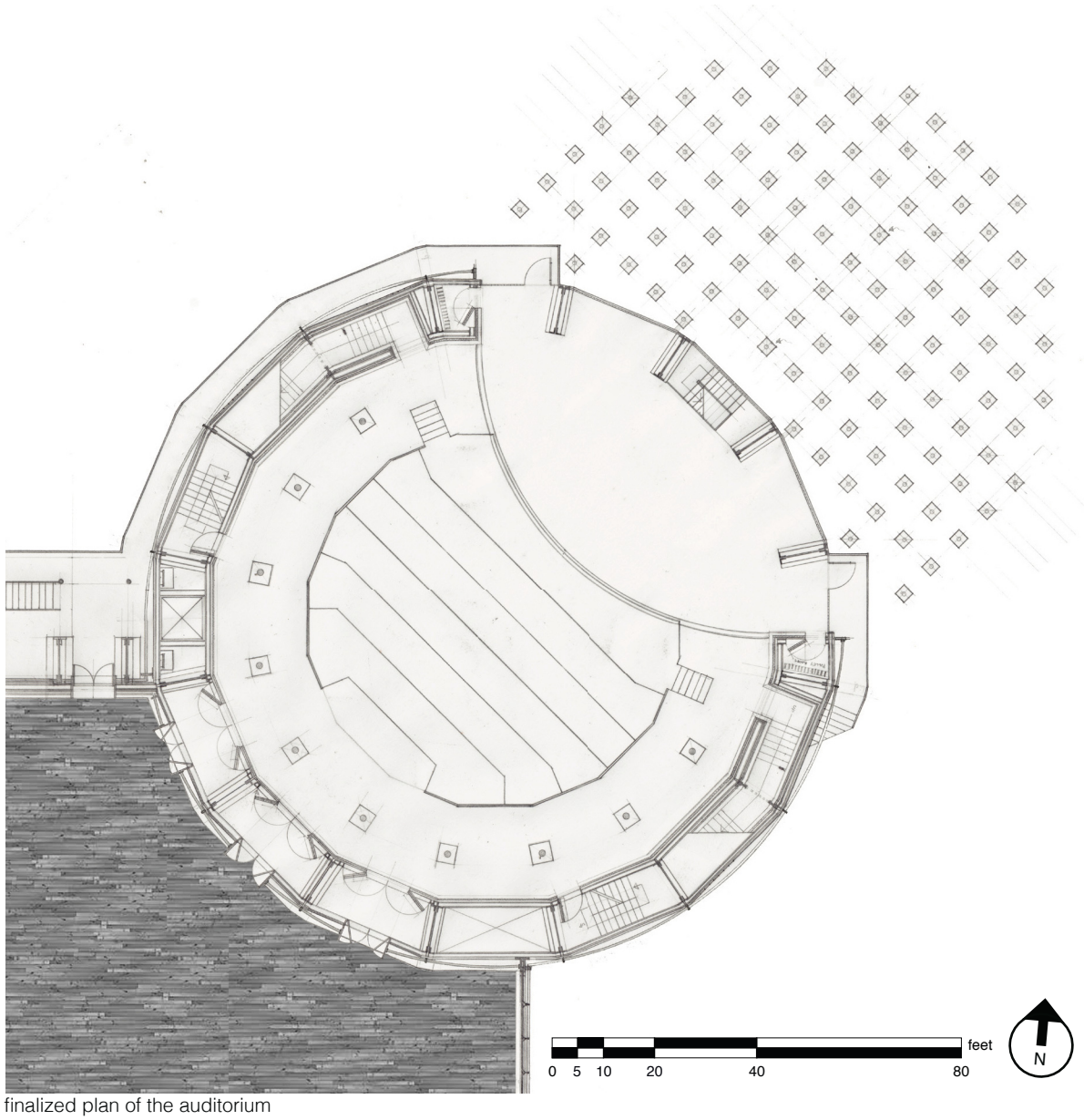
series of drawings exploring the steel structure supporting the primary seating area of the auditorium



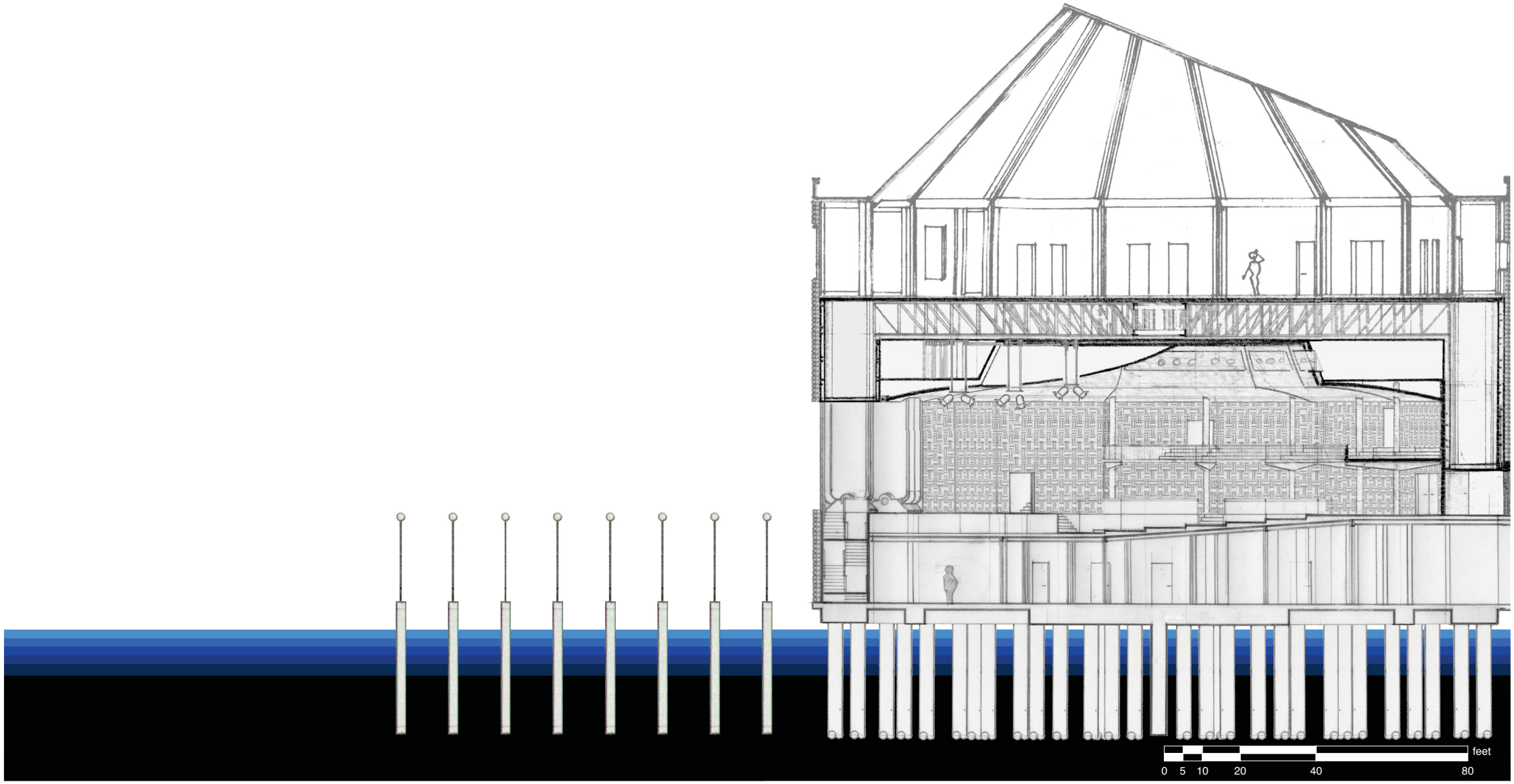
drawing exploring the staircase structure within the walls of the auditorium


drawing showing the construction of the steel columns supporting the auditorium balcony

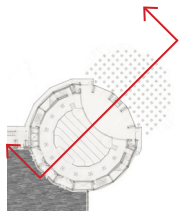

exploded axonometric drawing showing the primary support structure of the auditorium: (in order of ascension) caissons with grade beams, reinforced concrete plate with circular reinfoced concrete columns,steel covers for the latter together with the primary seating area of the auditorium, and the sixteen steel ribs that carry the inner and outer shells of the auditorium

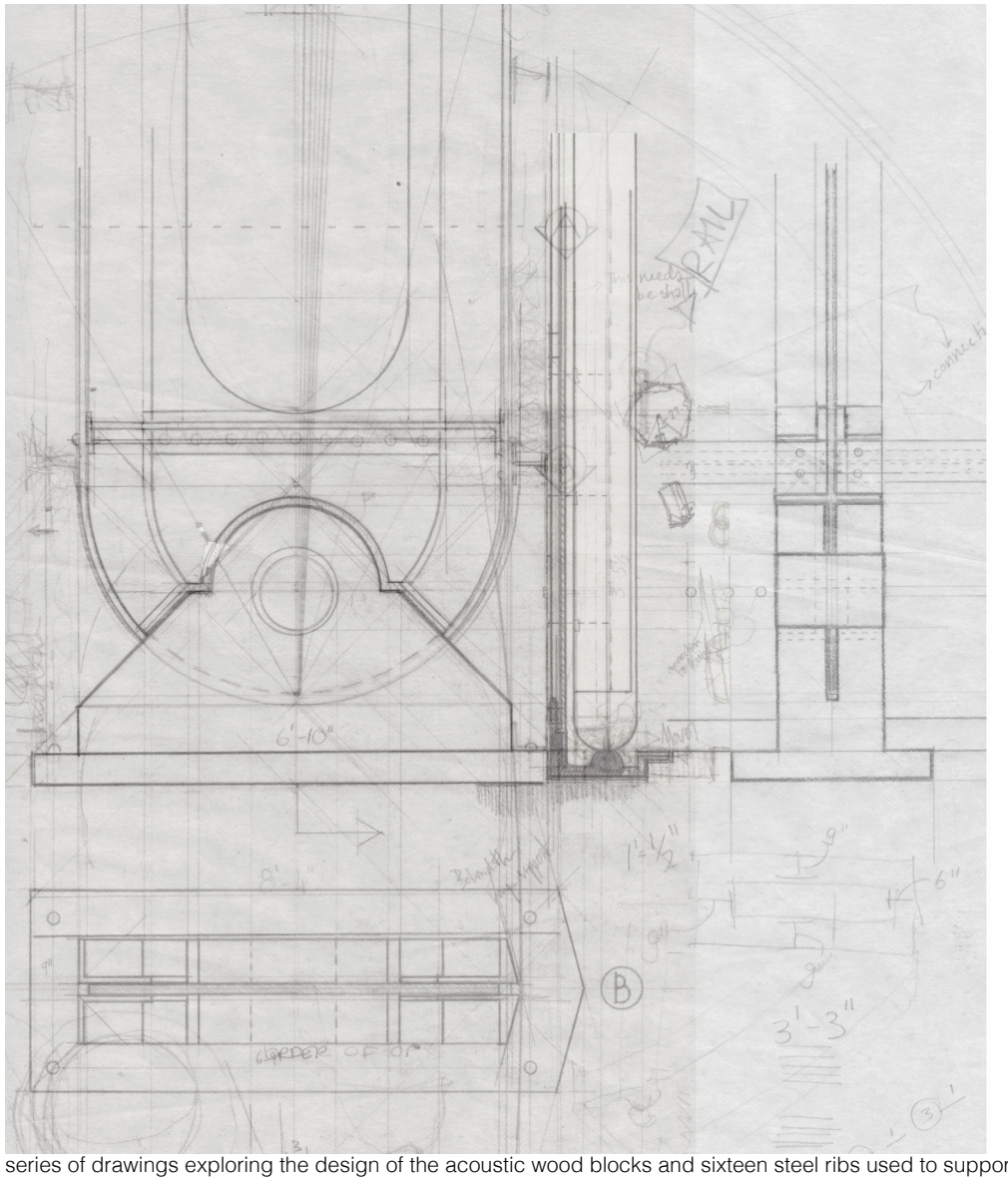


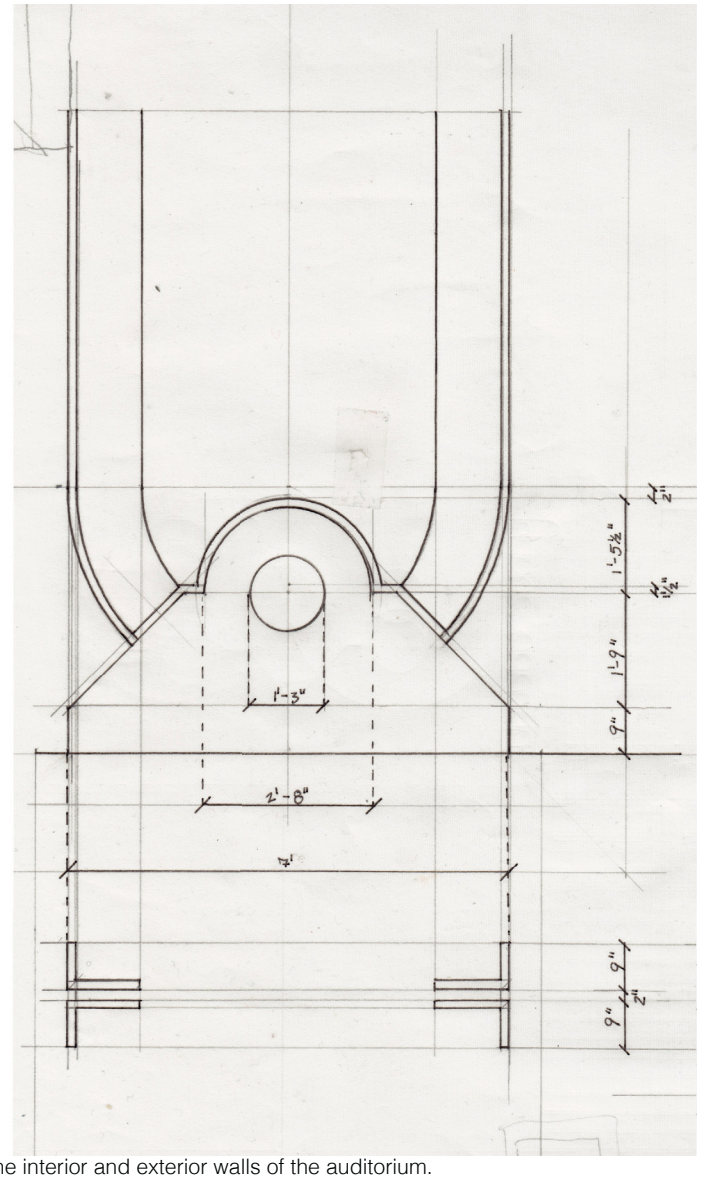
finalized plan of the auditorium

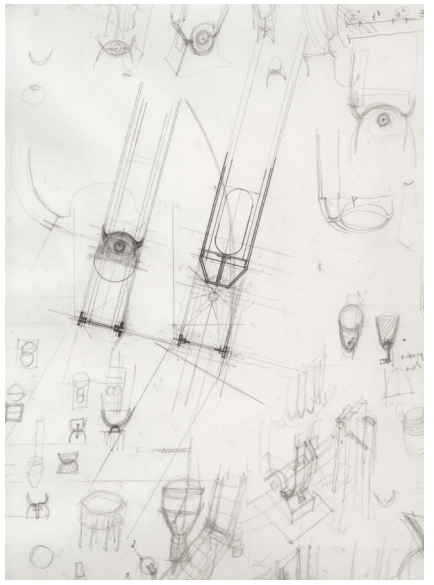


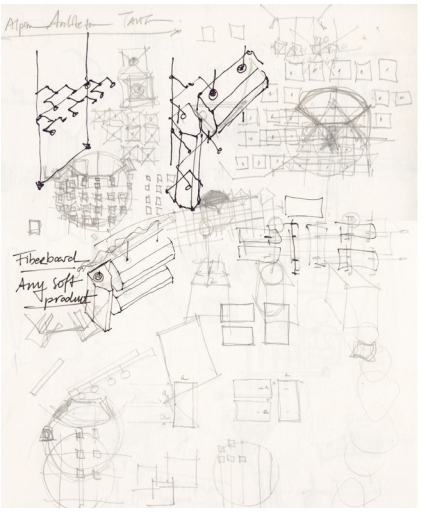
cross section of the auditorium



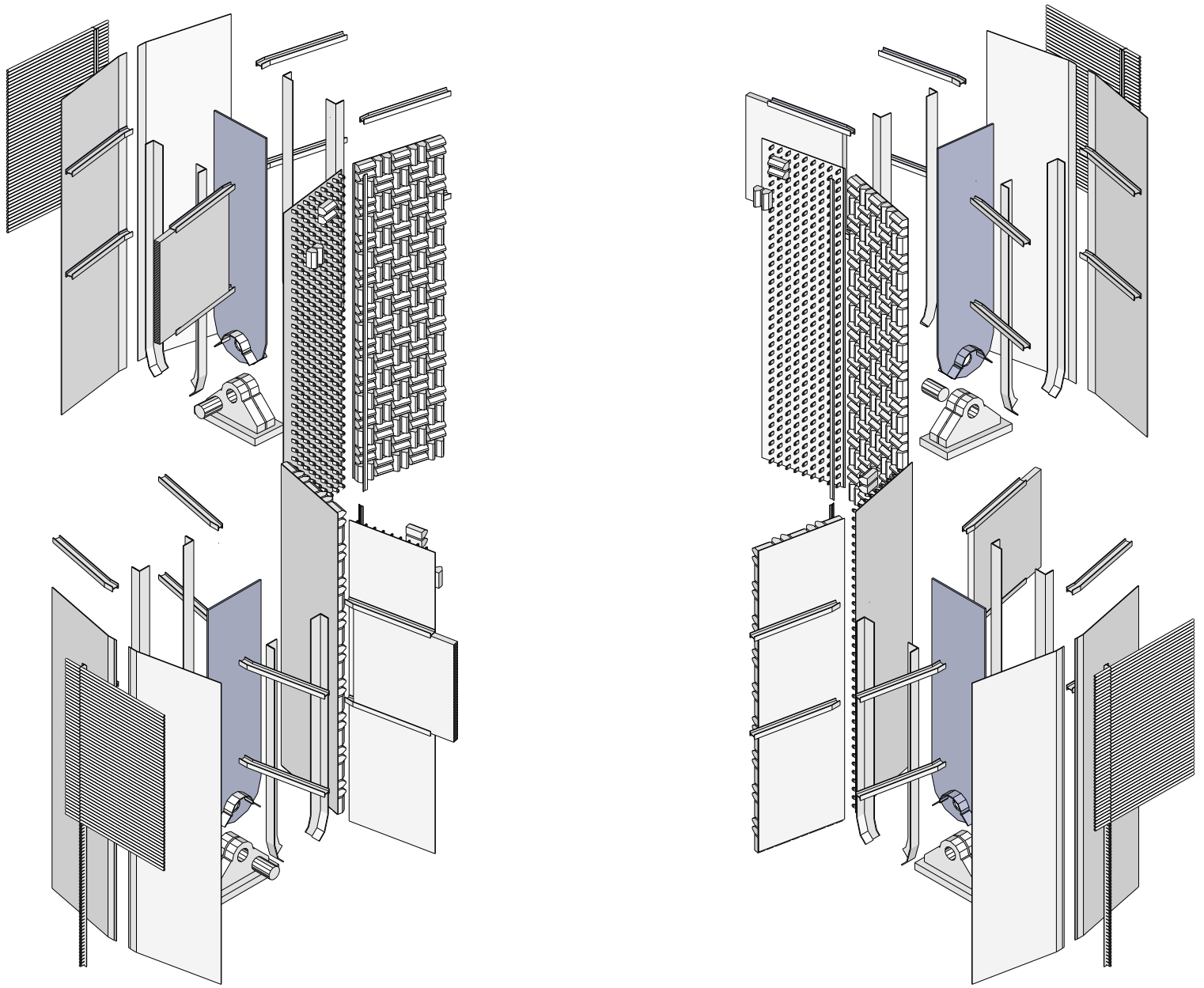








series of drawings exploring the design of the acoustic wood blocks and sixteen steel ribs used to support the interior and exterior walls of the auditorium.



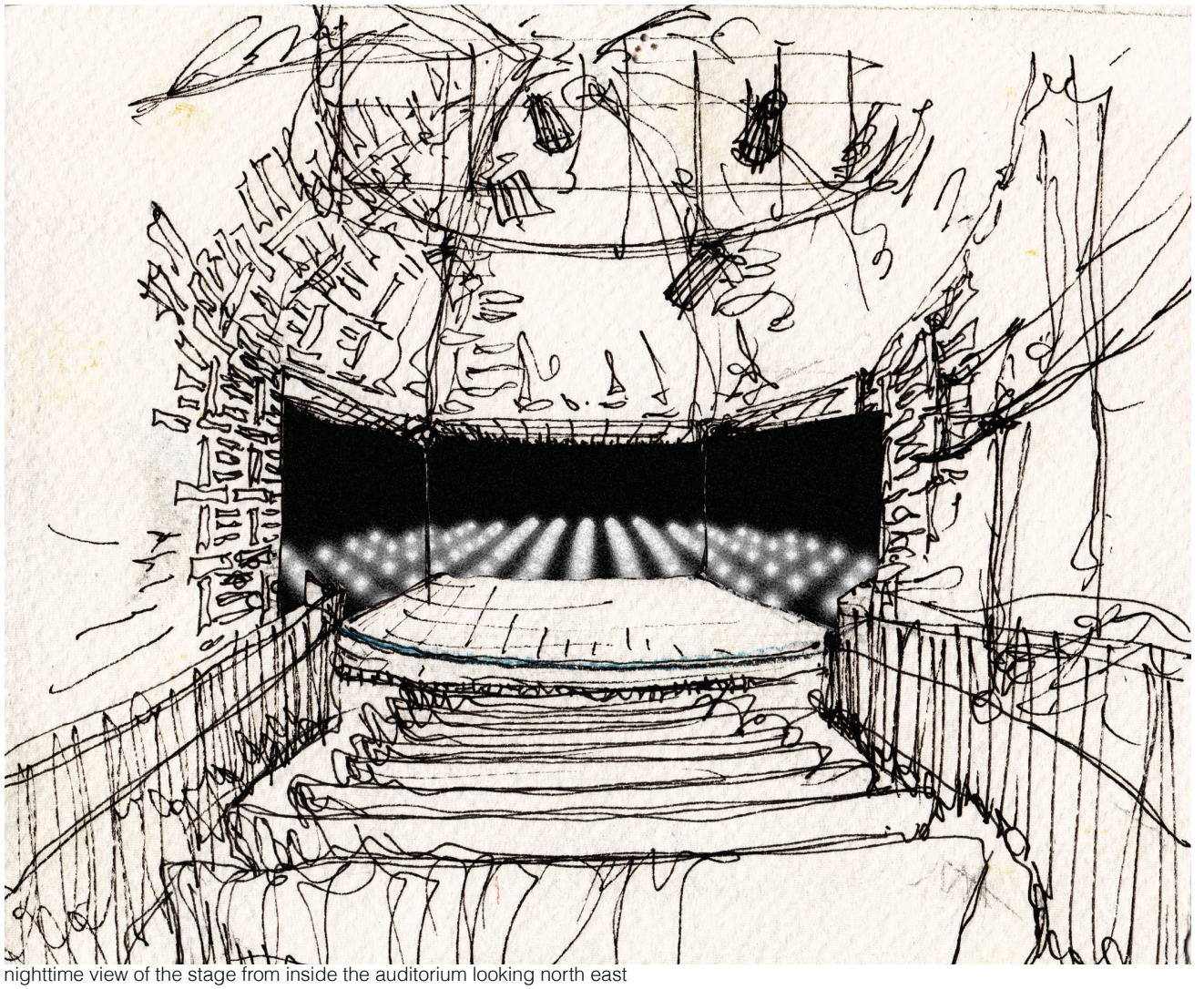
exploded axonometric drawing of the tectonic steel system used to form the internal and external walls of the auditorium

L i g h t s o n t h e P o t o m a c R i v e r

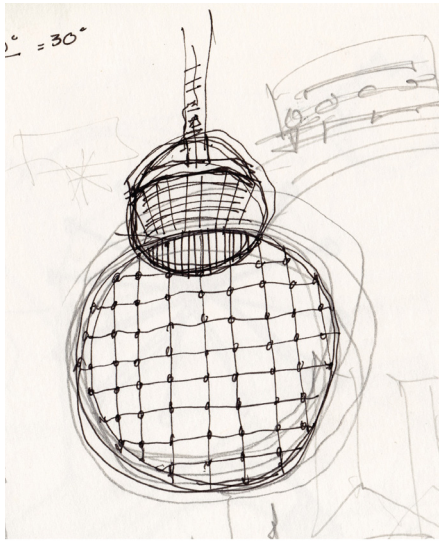
At the beginning there was a memory of fields and snails.

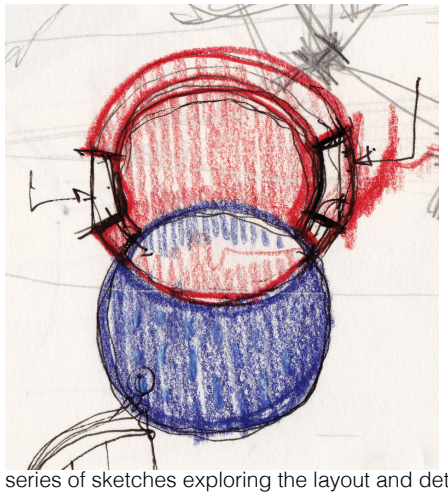
When I was a boy growing up in Istanbul, my family and I would have picnics on what used to be empty fields next to my father's high school. Most of what I remember of these outings consists of the tall grass that would obstruct my view. Coupled with the fact that, as a consequence of their location, the fields were surrounded by tall apartment buildings, I associate this memory with what I identify today as a strong sensation of urban disorientation that would last until noon. At noon, something wonderful would happen: Snails. Hundreds of snails would slowly start climbing up the stalks of grass to bask in the sun. Somehow they always managed to complete their ascension at the same height, resulting in hundreds of tall blades of grass terminating in perfect spirals of calcium carbonate and protein, forming a datum line that would bring about a state of calm in my young mind. Years later, I associate that feeling with a reassurance of my place between the earth and the heavens.

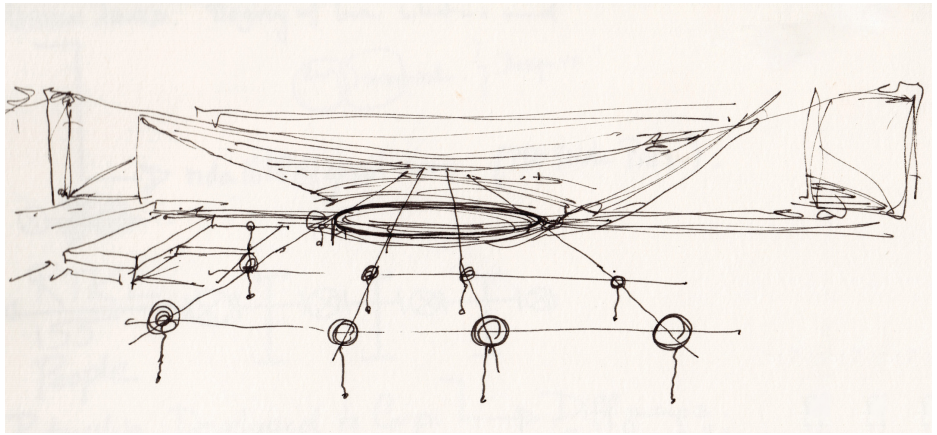
The absence of sets or backdrops allows for a stage with a framed view of the river and its horizon in the background, emphasizing the latter's symbolic significance for the theater. However, once the sun sets and the world outside is shrouded in darkness, this point of reference is lost and the audience is confronted with a dark and disorienting void beyond the stage. In order to provide them with even a modicum of the serenity I felt as a child trying to find my way among the tall grass, I propose the placement of lights above the water, completing the circular form of the stage and contributing to the underlying idea of vesica piscis within theater: the stage exists where the world of ideas and world of material overlap.

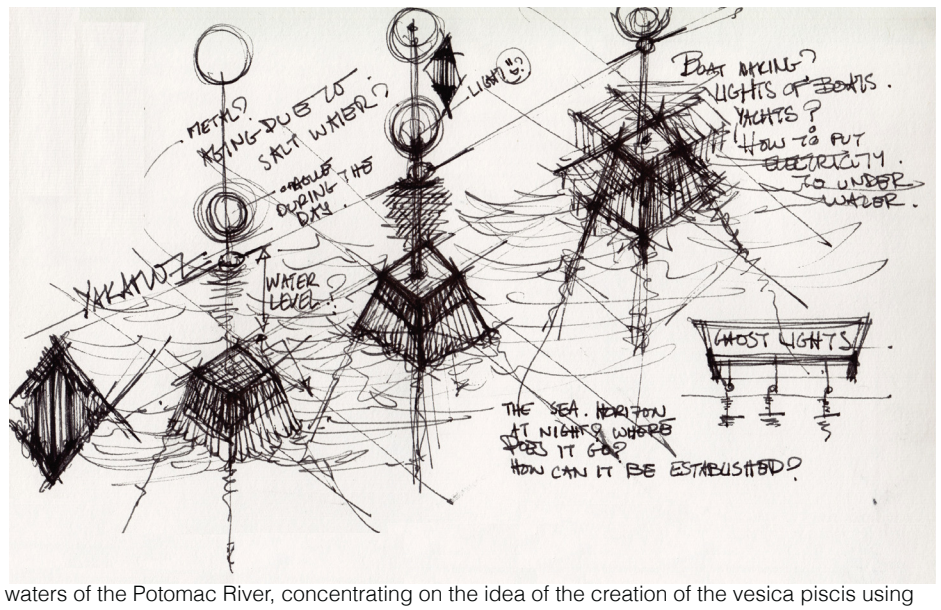


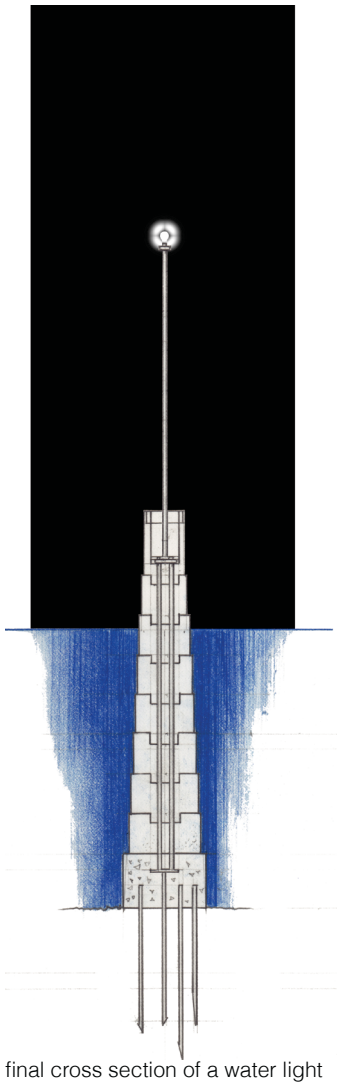
nighttime view of the stage from inside the auditorium looking north east











series of sketches exploring the layout and detailing of the lights over the waters of the Potomac River, concentrating on the idea of the creation of the vesica piscis using these elements in order to emphasize the juxtaposition of the Platonic worlds of materials and ideas

final cross section of a water light

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15	Secondary sketches studying the details of the private docks, ink on paper, 8” x 16” each
	Secondary sketch of the private docks with trees, ink on paper, 8” x 8”
	Final version of the private docks, ink on paper, 8” x 12”
17	Sketch of the stereotomic and tectonic elements, ink and colored pen on paper, 8” x 8”
18	Series of sketches exploring the construction of the stereotomic mass of the building, ink and colored pen on paper, 13” x 10”
	Series of sketches exploring the interaction between the stereotomic and the tectonic, ink and colored pen on paper, 13” x 10”
19	Series of sketches exploring the interaction between the stereotomic and the tectonic, ink and colored pen on paper, 13” x 10”
	Series of sketches exploring the interaction between the stereotomic wall and the tectonic window, ink and colored pen on paper, 13” x 10”
20	Study sketch of the theater courtyard, ink and color pencil on paper, 13” x 10”
	View of the theater courtyard looking north, ink and colored pencil on paper, 7” x 10”
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	Early sketches studying the brick layout for the stereotomic west façade, ink on paper, 24” x 8”
23	West elevation I, pencil on vellum and digital rendering, 8” x 16”
24	Early plan drawing and sketches studying the brick layout for the stereotomic west façade, pencil on tracing paper, 18” x 36”
25	West elevation II, pencil on vellum and digital rendering, 8” x 16”
26	Early sketches studying the openings on the stereotomic west façade, ink, pencil, and colored pen on paper, 13” x 10”
27	West elevation III, pencil on vellum and digital rendering, 8” x 16”
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29	South elevation, pencil on paper and digital rendering, 16” x 29”
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	Detail drawings of the east wall of the lobby, pencil on vellum, 22” x 25”
31	East elevation, pencil on vellum and digital rendering, 16” x 11”
32	Early sketches exploring possible foyer designs, ink and pencil on paper, 13” x 10” each
	Exploded axonometric drawing of the composite steel columns, pencil and ink on vellum, 8” x 5”
33	Entry level plan, pencil on vellum, 17” x 33”
34	Series of drawings exploring the detailing, design, and placement of the foyer and lobby, pencil and ink on vellum, 36” x 24” each
35	Lobby level plan, pencil on vellum 16” x 24”

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	Exploded axonometric drawing of the joint between the lobby floor and its support structure, ink on vellum 8” x 5”
45	Western cross section II, pencil and ink on vellum and digital rendering, 8” x 16”
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47	Northern cross section, ink on tracing paper, 16” x 29”
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	Series of drawings exploring the steel structure supporting the primary seating area of the auditorium, pencil on vellum, 13” x 24”
51	Staircase structure within the walls of the auditorium, pencil on paper, 4” x 8”
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	Exploded axonometric drawing of the primary support structure of the auditorium, pencil on tracing paper and digital rendering, 36” x 12”
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53	Cross section of the auditorium, pencil on vellum and digital rendering, 12” x 24”
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55	Exploded axonometric drawing of the tectonic steel system, digital rendering
56	Night time view of the stage from inside the auditorium looking northeast, ink on paper and digital rendering, 6” x 7”
57	Series of sketches exploring the layout and detailing of the lights over the waters of the Potomac River, ink on paper
	Cross section of a water light, pencil on vellum and computer rendering 10” x 3”

All images are by the author.

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