

An architectural drawing showing a vertical section of a building. A central vertical shaft or column is prominent, with a circular feature at its midpoint. The drawing includes various lines representing structural elements, walls, and possibly a roof or floor. The style is technical and precise, typical of architectural blueprints or sections.

DEVELOPING A DIALECTIC

BY BRITTANY R. GREENWOOD

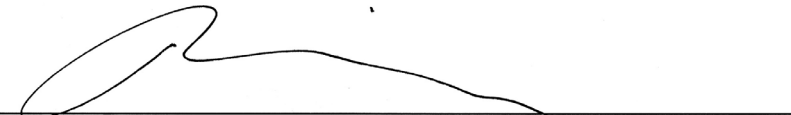
DEVELOPING A DIALECTIC

A DESIGN THESIS SUBMITTED TO THE
DEPARTMENT OF ARCHITECTURE AND LANDSCAPE
ARCHITECTURE

BY

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ABSTRACT

This project began as an analysis of the tangible evidence of time within a built environment, specifically the changing paths on which we experience our cities and the objects and spaces that become void of use.

Built structures resulting from a deep analysis of context have the opportunity to create a positive symbiotic relationship with their environment and initiate a dialogue between forces. The exploration of unused space in between buildings will produce a denser urban environment- building upon valuable space and bridging gaps between old and new construction.

This then became an investigation of the translation between the process of a drawing and its implementation into the 3-dimensional world. By retaining layers of information - of decision, thought, process- the lines of the drawing articulate possibilities of space, rather than a finite object.

THESIS
STATEMENT

Can architecture survive the passing of time by possessing the ability to accept both growth and decay?

T Y P O L O G Y :

This project will consist of two separate parts to explore the different symbiotic relationships developed between structure and context. The larger space will accommodate instances of large community congregation. Space will also be provided for a collaborative analysis and celebration of the community through the design of temporary installations. The small space will be for more intimate contemplation, existing over the pivot pier and made accessible by multiple pedestrian bridges.

C L A I M :

Architecture that is integrated into the used and abandoned elements of an existing urban framework can work to address the dynamic needs of a growing system.

P R E M I S E S :

Abandoned structures contain unused energy and opportunity that without investigating, remain dormant in space.

Isolated buildings in the urban area create negative, neglected space. "Space is of primary importance for architecture. The obsession with objects has made space secondary, at best" (Woods 2004).

The demands within a society are ever-changing. Architecture that works to be flexible and absorb this will have the ability to embrace change and collaboration. If buildings are still able to receive information, they will be able to respond and adjust physically to programmatic and contextual issues that arise.

Something that remains in process continually solves problems. This frees the architecture from the restrictions latent in the 'obsession over the end product' and mitigates the limitations imposed by changes within programmatic needs, within the wear of time, within the effects of nature.

J U S T I F I C A T I O N :

The static nature of the built environment is conducive to infiltration of less permanent, parasitic elements to fill current needs and voids within an urban system. Temporary or ephemeral architecture, that accepts its inevitable obsolescence, can be implemented as a sort of trial and error for more successful, permanent solutions. A coherent identity, embracing both history and change, will then be the resultant of the language established between the stratified layers of old and new.

NARRATIVE

My interests are in the forgotten or unaddressed elements within the urban framework, particularly the void space created by the built environment and the remnants of discarded buildings and structures.

The effects of time and the changes in society bring both the life to new buildings and the demise of others. The growth and decay of abandoned buildings and unaddressed spaces seems to form a gap left behind by construction and destruction.

Through thoughtful integration into the existing framework, new architecture can inject itself in these areas of over-looked potential, developing a more symbiotic relationship with its host, the host being the city, the context, or the building. This enables a denser urban environment, shifting the focus of development away from our cities' edges.

This architecture begins to take on parasitic qualities--feeding on the dormant energy of dead objects and dead spaces. A strong analysis of the host is then essential to the success of both the new and existing components. The dialogue or negotiation developed here will create the opportunity for both the revitalization of the abandoned and forgotten and the enhancement of their surroundings.

Architecture with the ability to mold around/within a rigid, static frame lends itself to the possibility of adaptation to the change inherent in the ephemeral nature of our society. The result is a work that continually solves problems by being continually under process. This frees the architecture from the restrictions latent in the 'obsession over the end product (Wood, 2004) and mitigates the limitations imposed by changes within programmatic needs, within the wear of time, within the effects of nature. Ensuring longevity by an ever-evolving architecture.

MAJOR PROJECT ELEMENTS

PART ONE:

Outdoor sculpture garden
A west/east approach/exit path
A central space to pass through
Auxiliary spaces to linger
Observation deck

PART TWO:

Administrative office(s)
Lobby/entry
Exhibition/gallery- permanent
Large public gathering
Small private gathering
Workshop space
Courtyard
Janitorial
Mechanical
Bathrooms

USER/CLIENT DESCRIPTION

PART ONE: For public use.

Restricted by the river banks and the provided support of the existing bridge footing, this will be a small scale project. Located above the Red River, people looking for a place to dwell with scenic views and a sense of isolation from the bordering cities will spend time here. Easily accessed from the bike path, and existing parking lots. There will be no additional parking available. This place will not be occupied after nightfall.

PART TWO: For public use.

This space will be for community gathering and a museum of artifacts representative of the city's history.

SITE LOCATION

GRAND FORKS, NORTH DAKOTA



SITE INFORMATION

The site chosen is the previous path of the Northern Pacific Railway over the Red River between Grand Forks, ND and East Grand Forks, MN. The railway played a vital role in the birth of these cities. What remains of this railway today is a lone pivot pier in the river and a visible part of the city along its path. This site holds hints of the city's history, much of which has disappeared due to floods.

The way the city evolved to anticipate and survive annual changes within the physical environment is a model for other cities to avoid the amount of loss experienced here. Architecture can be proactive in this sense as well- to plan for change, and when broken, repair itself to come back more resilient than before.

The purpose of having two projects within this site is to approach two different aspects of neglect: first, the railway footing and its place in the city's history; second, the unoccupied space that falls where the railway used to pass. Developing a connection between the two sites will pose the challenge of addressing the dike in between and resisting rising waters in the spring.



Aerial photo from
Google Earth



PROJECT EMPHASIS

To design ways in which new construction can supplement existing unused built elements, creating a strong symbiotic relationship.

OTHER AREAS OF INTEREST WILL INCLUDE:

Methods to adhere to without damaging existing buildings.

The economic benefits of building/structure reuse and renovation. Also- economic means of temporary construction.

Building methods that will promote either expansion or retraction when necessary. Standard elements and rules that would give way to multiple transformations.

Spaces void of identity, giving its users freedom to mold the space to changing programmatic needs.

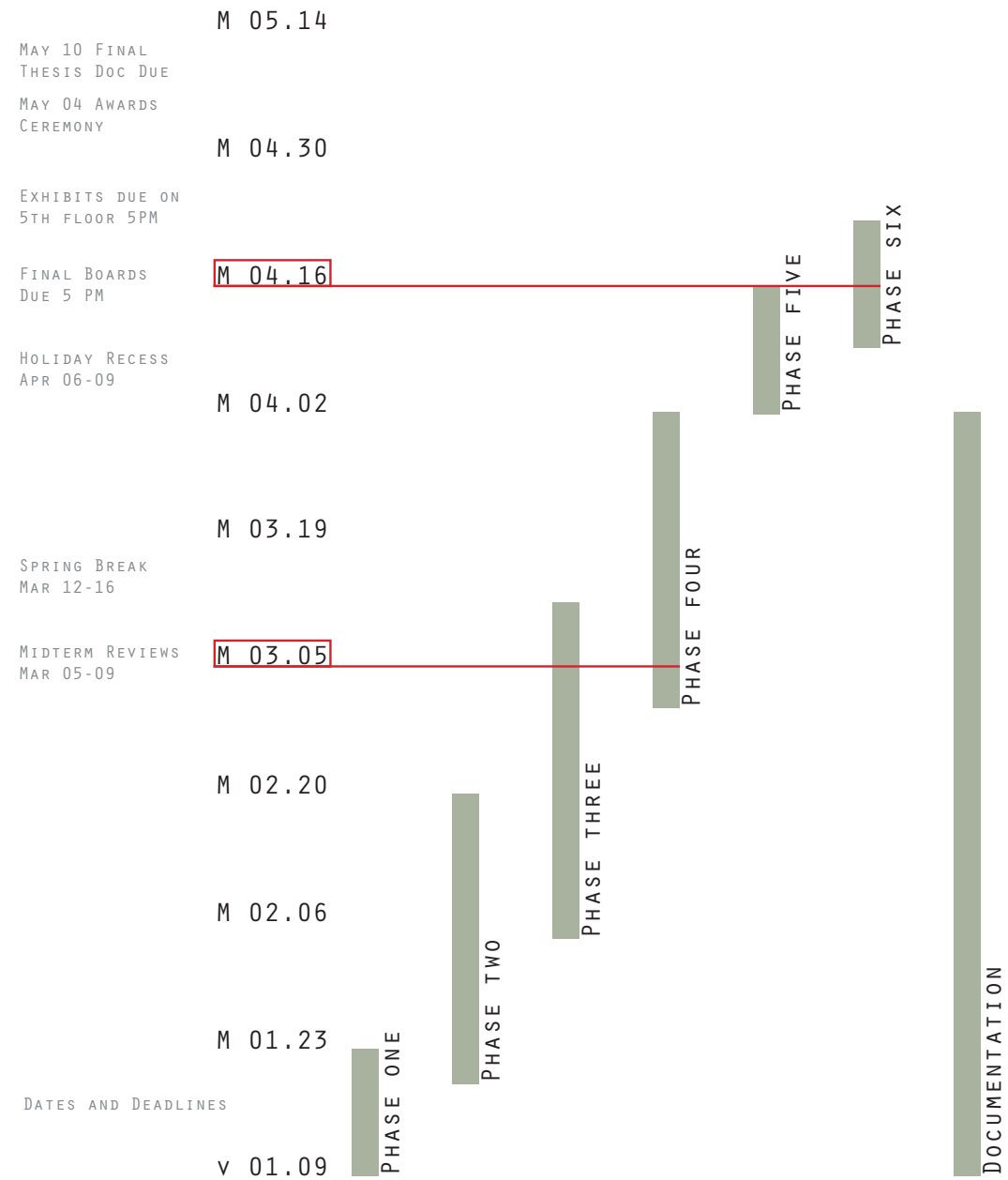
PLAN FOR

RESEARCH DIRECTION

The theoretical premises stated in the State of Intent will lead to investigation into construction methods applied to the exterior of an already built structure. Case studies of projects of a similar typology will aid in this and provide new ideas for the project. The case studies searched for will be ones that build within constricted environments and use the context of the site to their full advantage. Research into the history of the site will help with the structural understanding of the existing footing, as well as give further meaning and development to the concept of the project. To better understand scale, space, and views I will visit the site. Choosing a site in close proximity will enable multiple visits to note of the effects of the changing seasons on the site. More development on defining a program that will be flexible enough for these various spaces will also be accomplished through case studies of similar typology as well as scale studies of local spaces that accommodate a similar number of people. Research into the history of the city and its current available facilities will help to get a better grasp on the benefits of this particular type of project in the proposed site.

DOCUMENTING DESIGN PHASE

Documentation will be an ongoing process throughout the project. Creating a system where information is consolidated weekly will give a clearer picture of the development in the end and will also set a consistent pace for production. Some weeks will produce more than others, depending on the category. Structuring a schedule enough that things get accomplished, yet still in an organic manner is my goal. To preserve the ideas the of the project I will thoroughly scan and photo all important images. In the end, I am not sure how this will be integrated into my presentation. I do feel that process is the most interesting and riveting part of the design and an important role in the communication of design to others.



SEMESTER BEGINS

DESIGN METHODOLOGY

Phase One
Conceptual Analysis
Context Analysis
Spatial Analysis

Phase Two
Conceptual Analysis
Context Analysis
Spatial Analysis

Phase Three
Context Redevelopment
Structural Development
Materials Development

Phase Four
Envelope Development
Structural Redevelopment
ECS Active

Phase Five
Project Revisions
Presentation Prep
Presentation Layout

Phase Six
Model Construction
Plotting

“Space is of primary importance for architecture. The obsession with objects has made space secondary, at best.” - Lebbeus Woods

“To adapt to a transforming society, you must free yourself from the following: typological thinking, which often times dominates the design of the building; politics and identity; illusions of authority; assurance of the habitual; and the obsession over the ‘end-product’ which often times dilutes the richness of the revelations found in the design process.” - Lebbeus Woods

“History is in motion, so space is in motion. My aim is to build that motion in architecture.” - Eric Owen Moss

“Temporary spaces are models for a form of appropriation based on civic initiative, provoking the question “why not here too?” The knowledge that something can be implemented mobilizes sleeping giants.” – Florian Haydn

“Temporary architecture is aggressive. It calls long-established habits of seeing into question- free from compulsions of local politics, because it doesn’t have to last 50 years.” -HRC

“What might architecture become if it invests its creative capital less in the struggle against gravity and more in seeing what happens if we let go.” – Woods

“Is conceptual freedom architectural freedom? Or do the demands for the drawn representation of architecture negate the freedom concept.” – Moss

RESEARCH

SYMBIOTIC ARCHITECTURE

There are different analogies that can be made with the type of architecture that is being explored with this thesis, that of a 'parasite' or a 'guerilla', etc. Essentially, it is something that through thorough research and analysis of a built condition has the ability to successfully implement itself and survive within this existing 'host' framework.

The symbiotic relationships developed between a parasite and its host can be analogous to the coexistence of built works and their context. Symbiosis takes on various forms when discussing host-parasite relationships. The term 'parasitic' usually has negative connotations and when applied to architecture, something that is harmful to its host is not successful. It ultimately ends in the demise of both the host and the parasite. Parasitic architecture becomes a strategy used to take full potential of the values presented by the host condition while creating, with its execution, opportunities that better the host as well. The type of relationship developed here would be one of commensalism or mutualism, rather than that of a negative parasitic or 'parasitoid' relationship.

There are various types of parasitic relationships. Commensalism is one example, defined as two organisms living in the same location- one benefitting or taking advantage of the other; the other having no harm or profit as a result (Merel Pit, 2007). Typical construction often times takes on these characteristics. Land is developed and the building is placed on the site without enhancing or giving back to its surroundings. Buildings float in a sea of man-made pavement. Blending in the landscape and a fuller ap-

preciation of context are necessary if architecture is to be successfully integrated into an existing condition. By finding ways to support the land that supports its structure, such as onsite energy production or adaptive reuse, new architecture can be less obtrusive and have a positive impact.

Such relationships would be more characteristic of mutualism, another formation between parasite and host. In this instance, both parties benefit and contribute to the success of the other. Renovations or preservations of old structures could be seen as an example of this. The New York City High Line is a beautiful example of enhancing an existing piece of derelict infrastructure present in the city, creating a unique and inspired space reflective the city's past and present.

The renovated structure was originally built in the 1930s as part of a massive public-private project called the Westside Improvement (Diller Scofidio + Renfro, 2008). Unused since the 80s, the highline was scheduled for demolition by a group of property owners. This conflict over property ownership has brought the destruction of many of our cities' irreplaceable historical structures. Fortunately, the High Line was saved by a group of local community members who recognized its value to their city's identity. Founded by Joshua David and Robert Hammond in 1999, Friends of the High Line advocated for the preservation and reuse of this structure as a public open space (Diller Scofidio + Renfro, 2008).

Architects Diller Scofidio + Renfro were chosen from the overwhelming amount of design entries. They describe their design as being "inspired by the melancholic, unruly beauty of this postindustrial ruin where nature has reclaimed a once vital piece of urban infrastructure, the new park will be an instrument of leisure, a place to reflect about the very categories of 'nature' and 'culture' in our time" (Diller Scofidio + Renfro, 2008). This project is beautifully executed, creating accessible green space elevated over the streets of New York, reflective of the city's unique culture and history.

Another project considered to take on 'parasitic' qualities if the work of Eric Owen Moss in Culver City, CA. His projects here work to redevelop the deteriorating industrial and manufacturing areas once central to the city. Projects such as Stealth, 3535 Hayden, Samitaur/Kodak, the Beehive, etc.

explore the idea of building the conflicts present between object and pre/post industry object- between what is recognizable as existing and what is historic postulate (Moss, 2002).

Moss selectively, and respectfully, subtracts and adds to maintain the original character of the area. Simply put: “you need to enclose a space- you build a wall; you need access- you create an opening” (Moss, 2002). His conscious decision to integrate new with old revitalizes a deserted historic district, bringing new industry, economy and commerce. His architecture adapts to a pre-existing condition and suggests the ability to continually adapt if those conditions are to change. In the words of Moss, “History is in motion, so space is in motion. My aim is to build that motion in architecture” (Moss, 2002).

Benefits of this ‘parasitic’ strategy are mainly in the ability to evolve and adapt to ever-changing, sometimes harsh conditions to increase the longevity of the design. Typically buildings are static and stable, providing little flux when conditions change. “The continually developing society is obstructed by the inertness of the existing system” (Merel Pit, 2007). Intervention of this idea makes for success shared by both the new and the existing rigid framework. Addition of new parasitic elements to buildings or spaces can also be an opportunity to correct mistakes in an initial design or flaws emerging from the effects of time. Flexibility and intelligent manipulation with acceptance by the ‘host’ are inherent qualities of a parasite and an architecture that can succeed through changing environments. Gaining an understanding of a given system (city) allows for recognition of unused potential. Considering these untouched areas ‘economic fallow land’ will discourage development on the edge of the city and bring the focus back to the center (Merel Pit, 2007).

DECENTRALIZATION

The neglect of these undeveloped spaces turns the growth of the city outward. This ‘decentralization’ stratifies building development, diluting the richness seen in the layering and juxtaposition of old with new. Evidence of time is seen in our sprawling city perimeters and in the crumbling of our neglected city centers. By focusing on the void spaces and uses rather than developing on the border brings back the importance of space, rather than isolated objects. Viewing these voids as ‘economic fallow land’ creates initiative to build within these restrictive areas, working to reshape and cohere our cities to bring the downtown area back as a dense, cultural center. In North Dakota, where space is vastly abundant, it is very difficult to stop the city from sprawling beyond its blurred edges. “An intensified urban realm could be a coherent mediator between the extremes of the metropolis and the agrarian plain” (Holl, Edge of a City, 1991). Promoting downtown development, where the city’s history and culture is most evident, will help give the city a stronger identity. Through provision of flexible space to support groups without enough capital to buy into urban real estate, small local business will have the opportunity to flourish and add to the cultural richness of the area by limiting infiltration of franchises. A shared desire and support for this development with create relationships between developers and city residents. As communities, we should strive to “transform the tangled waste at the fringes of our modern cities and build new urban sectors with programmatic spatial and architectural richness” (Holl, Edge of a City, 1991).

DIALOGUE BETWEEN OLD/NEW

Over time, layers of architectural styles, materials, construction and technologies appear as evidence of a changing society. An interesting dialogue is formed when contrasting new with old, built with natural. Successful integration is a difficult task. Buildings belong to individual circumstances-what is the site, the program, what is the building (Moss, 2002). Each having a unique identity, their purpose or coexistence in the larger framework of the city is hard to define. Establishing a relationship between structure in context, between architecture and the public, and between old and new will allow for a conversation, a dialogue to be established within the urban environment. As stated previously, building something that adheres to or encompasses an existing construction will require a deep analysis. If it addresses needs within the city, or calls attention to unknown needs, the likelihood of it being rejected is reduced.

New architecture has the opportunity or obligation to engage the public, to highlight strengths and weaknesses of the urban framework, to 'awaken sleeping giants' by giving life to unaddressed voids of use. This architecture can recreate, emphasize, and/or protect discarded historic objects or spaces unique to the city's culture and history. The railroad footing is exactly that- a remnant of the city's heritage. Building upon, within, and around objects or spaces void of use sets up a foundation for encouraging the community to take this space- to free this space, which is rightfully theirs. Whether it is a new structure or a temporary installation, the purpose is to alter the mentality of the city's residents to desire and advocate for change (Florian Haydn, 2006). It becomes necessary to study the initial use of a structure with its current function or role in society and how that has shifted over its lifetime. Information used to develop original structure may no longer be relevant. If buildings are still able to receive information, they will be able to respond and adjust physically to programmatic and contextual issues that arise.



ADAPTION/INFORMATION

The ability to adapt becomes essential to the longevity of a project. Due to the impermanence of the built environment, flexible architecture that absorbs changing information is more resilient than the typical static nature of the buildings within our cities. New construction contains knowledge gained from preceding buildings, but what happens when it is given the ability to continually learn? To anticipate future needs of a building could essentially be anticipating that the need or use of that particular building will someday change. Being able to receive new information provides a constant discussion of architecture, allowing new things to be discovered and materialized.

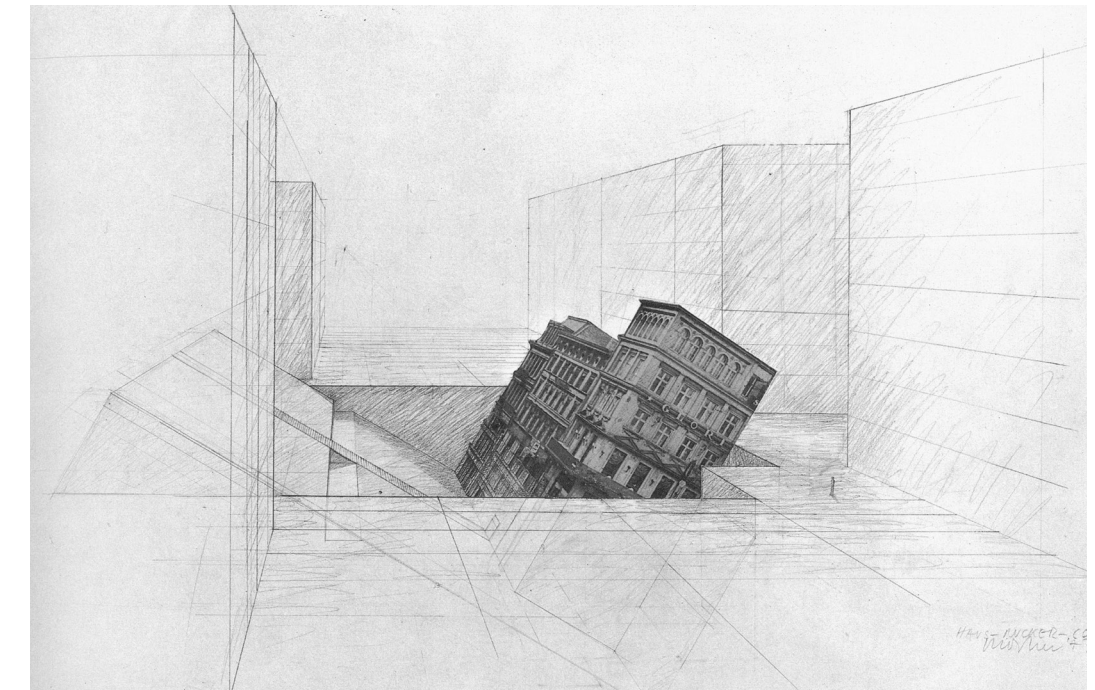
EPHEMERALITY

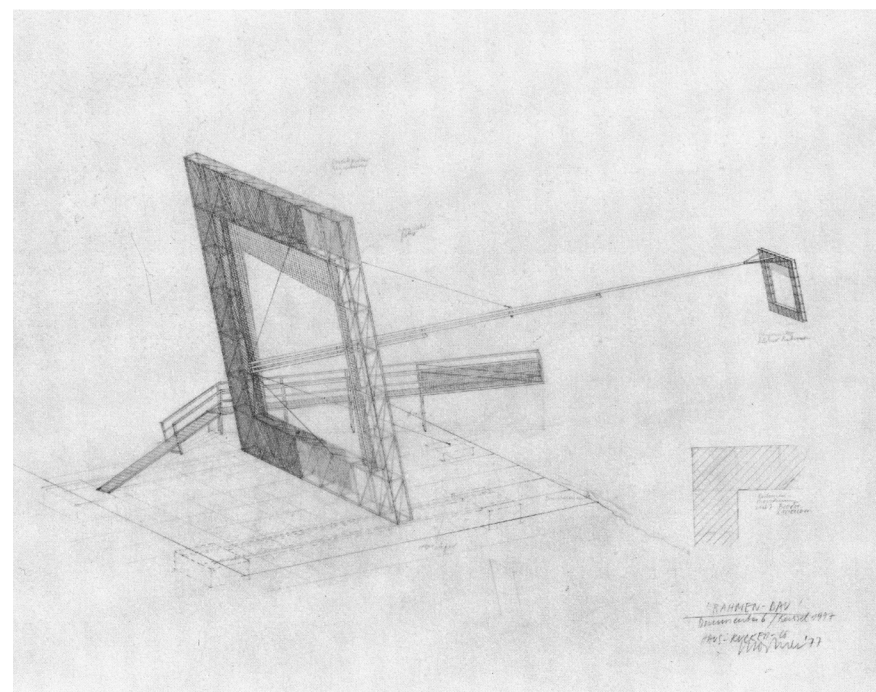
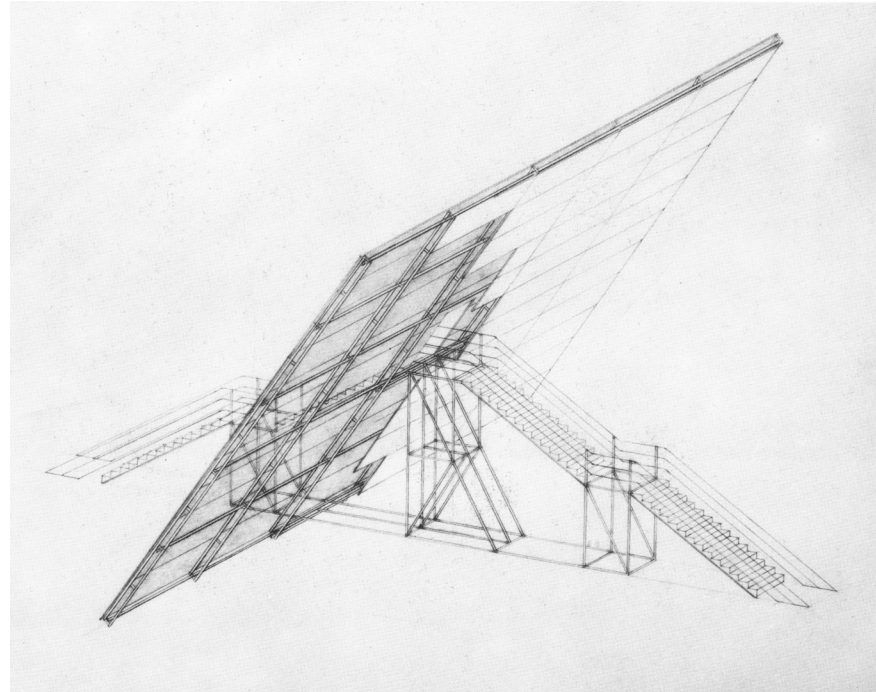
How can temporary interventions, concerned only with small spaces and brief spans of time, permanently alter the perception of public space? Ephemerality is an important discussion due to the nature of society. Pushes for change now can be more effective than planning for future change. Temporary uses of built objects can be used to fulfill a temporary need; they can be implemented as experimental architecture or art that analyzes an existing condition, recording the resulting reactions- 'society's self observation'; temporary means can also be created as momentum for change and future development.

Ephemeral architecture is the opposite idea of a master plan; it sees the conditions now and responds to them. Temporary uses call planning and its premises into question (Florian Haydn, 2006). "Temporary architecture is aggressive. It calls long-established habits of seeing into question-free from compulsions of local politics, because it doesn't have to last 50-100 years" (Schmiedeknecht, 1998). The work of Haus-Rucker-Co in the 60s and 70s took a deep look at how the urban environment is perceived by its occupants. 'According to HRC (Haus-Rucker-Co), it was impossible to overlook a period of time such as the next five or 10 years. Under these circumstances, temporary architecture offered them great potential in creating a field of experiment that opened up possibilities to the future. The city would become a laboratory where temporary structures were the elements of experiment. No harm would be caused to the development of the experiment by changing or removing these structures' (Schmiedeknecht, 1998). Many of HRC's installations were strategies to alter our perception and acceptance of the built environment and to overcome the barrier between artist/architect and the public. Such an experiment was the Mind Expanding Program, with projects such as the Environment Transformers and the Balloon for Two. Other notable projects include the Sloping Surface, a temporary installation designed in 1976 to 'liberate the façade and establish the urban surface as a field of projection' (Schmiedeknecht, 1998). The Frame Building, executed in 1977, was another experiment implemented as an 'instrument of perception' to frame, separate and isolate a visual field. Setting this visual context as a form communication developed a relationship or moment with the viewer that without the frame wouldn't exist (Schmie-

deknecht, 1998). Intended as a temporary project, The Frame Building is still in existence today.

Another example of temporary work is The Tsumari Art Triennial, a collection of pieces of art and architecture that are exhibited across the region to reveal existing assets and using these projects as a catalyst to rediscover their values and communicate them with the world as a way of revitalizing the region (Echigo Tsumari, 2010-2011). This is an example of how the ephemeral nature of this project creates anticipation and is successful in the way it changes peoples' everyday perceptions of their environments. This develops not only a conversation between the host communities but also invites collaboration from other countries and cultures. Interim uses open up possibilities. They allow the architect or artist to communicate with the residents of a city, hoping a dialogue will be formed. "Temporary spaces are models for a form of appropriation based on civic initiative; they provoke a clandestine revolt in an Austria hostile to rebellion. Realized projects contain an explosive power. They provoke the question "Why not here too?" The knowledge something can be implemented mobilizes sleeping giants" (Florian Haydn, 2006, p. 15).





COMMUNITY

Considering the last topic discussed, what are architects obligations to society? Is it to carry messages or educate alternatives to an existing construction? What is great about the work of HRC is their recognition of the disparity between the art and architecture community has with the residents of the city- acknowledging importance of changing the way the urban environment is perceived by its population (Schmiedeknecht, 1998). The idea of an ephemeral piece of work is to provide a catalyst for change and to strengthen the relationship between the city's residents and the world of architecture and art, making them more critical and passionate about the nature of their surroundings. Something that works its way into the accustomed views, and is then removed will conjure questions of the current state of the urban environment.

Reflection on missed opportunities from neglected space and structures strengthens community awareness. Recognition and preservation of important elements of a city's identity will promote a deeper sense of pride and connection to the history and culture of the community. Create work that accomplishes this will help to educate the community and evoke an interest in history, the arts, etc. To provide space for this discussion to take place is also necessary. Public space is critical to a help urban environment. When this space is accessible year-round, it becomes a place for constant social engagement- encouraging social interaction, discussion and production of these installations. This access is especially important in our northern climate where we are isolated indoors for months at a time.

PROCESS

Buildings, installations, artwork, etc. are never guaranteed to be received or to evoke any kind of intended reaction. Buildings try best they can to take the information available and solve an existing problem. To say whether it is successful in doing so when it is completed is difficult; to say it will solve problems in presented in the future is impossible. The future of the 'unknown' is an interesting concept to design for. Similar to the difficulty of successfully implementing a master plan for the distant future of the city, anticipating the outcome of a finalized design can lead to meager results. Rather, a design should set up the rules of its formulation and once inserted into its context and challenged by those anticipated needs, its survival will then not entirely depend on the accuracy of educated assumptions. If buildings or structures remain in the process stage of design, as new problems present themselves it will have the ability to absorb them. Space is taking on the approach as Moss's work in Culver City- space that is conceived as shifting, flexing, jumping (Vidler). To apply a specific program to a space limits it immediately. Focus is then on the creation of space as opposed to an object. This space will be able to shift to accommodate changing programmatic needs, as Toyo Ito explored in his design of the ITM Building, discussed later in this document (Schmiedeknecht, 1998). Designing for multiple uses, or easy adaption to a similar use allows for the program to be tested and developed, evolving as needed. "The power of the unknown can be communicated in architecture. When you accept and embrace the poetic initiative within architecture, you introduce another dimension to the work" (Moss, 2002).

Remaining in process warrants a sort of freedom or release from the program. According to Lebbeus Woods, in order for something to be truly propitious to a transforming society, it requires one to free themselves from the following: typological thinking, which often times dominates the design of buildings; politics and identity; illusions of the authority of buildings (usually built in the service of private or institutional power); from the assurance of the habitual; and the obsession of the 'end-product' which often times dilutes the richness and revelations found in the design process (Woods, 2004). Design can be compared to the process of falling- an initial idea being the trigger of the fall, tripping you into the design phase. What if you

never reach the ground? What interests me is what happens when we no longer are the planners that determine space; when we accept the unpredictable nature of architecture to see "what architecture might become if it invests its creative capital loss in the struggle against gravity and more in seeing what happens when we let go (Woods, 2004, p. 120).

This idea can be interpreted in many ways. What form does an unfinished project take? It seems impractical or unrealistic to imagine a project go under construction that is not considered 'completed' and stable. "Is conceptual freedom architectural freedom? Or do the demands for the drawn representation of architecture negate the freedom concept" (Moss, 2002). Through careful and innovation methods of construction, architecture can have the ability to become flexible. The High Line project is maybe a close example of a successful execution of this idea, designed to 'remain perpetually unfinished, sustaining emergent growth and change over time' (Diller Scofidio + Renfro, 2008).



MEMORY

Like people, buildings have a memory. The effects of time can be permanently seen all around us. The importance of preserving spaces and structures of historical significance becomes crucial, or that information will be lost. As new techniques emerge, old ones are forgotten. Allowing both old and new to coexist allows for a richer environment. The lack of preserving this in our society will lead to unauthentic representations from memory.

Our history is important to us but the question to answer is how something should be remembered and in what way should it be preserved. This is usually the function of a museum. We compartmentalize our history and put it on display. What is interesting is this cannot be done with the built environment; buildings continue to live, their history becoming a part of ours. For history to truly be accessible it should remain in the city. Having history present and celebrated 'encourages people to look forward as well as backward' (Ryan, 2004). If a museum is to be permanent representation of time, it should be able to withstand the effects of time. This is a difficult task considered the fragile nature of the contents usually housed here- but that becomes the interesting challenge.

The purpose of museums and monuments are to represent something of historical significance. The idea of what this means in our modern society is changing. Museums/monuments that raise questions, evoke emotion, and have conceptual richness seem to have more impact than the large, grandiose structures of the past. Examples of this could be Maya Lin's Vietnam Memorial or Rachel Whiteread's Holocaust memorial for the Museum Judenplatz, discussed later in this document. These projects challenge the traditional idea, whose 'clear, simplistic, jingoistic messages are the final nails in the coffin of memory' (Ryan, 2004). A museum then does not merely give answers, but develops a relationship between both the past and the present. As stated in 'Open New Designs For Public Space' by Craig Barton, 'You have to have a shift in thinking, and see history as part of an urban infrastructure that is in its own way enduring. It crumbles and it's repaired...the tension between what's the collective culture and what's the individual diverse culture is what really fuels the interest in making new public spaces' (Ryan, 2004).

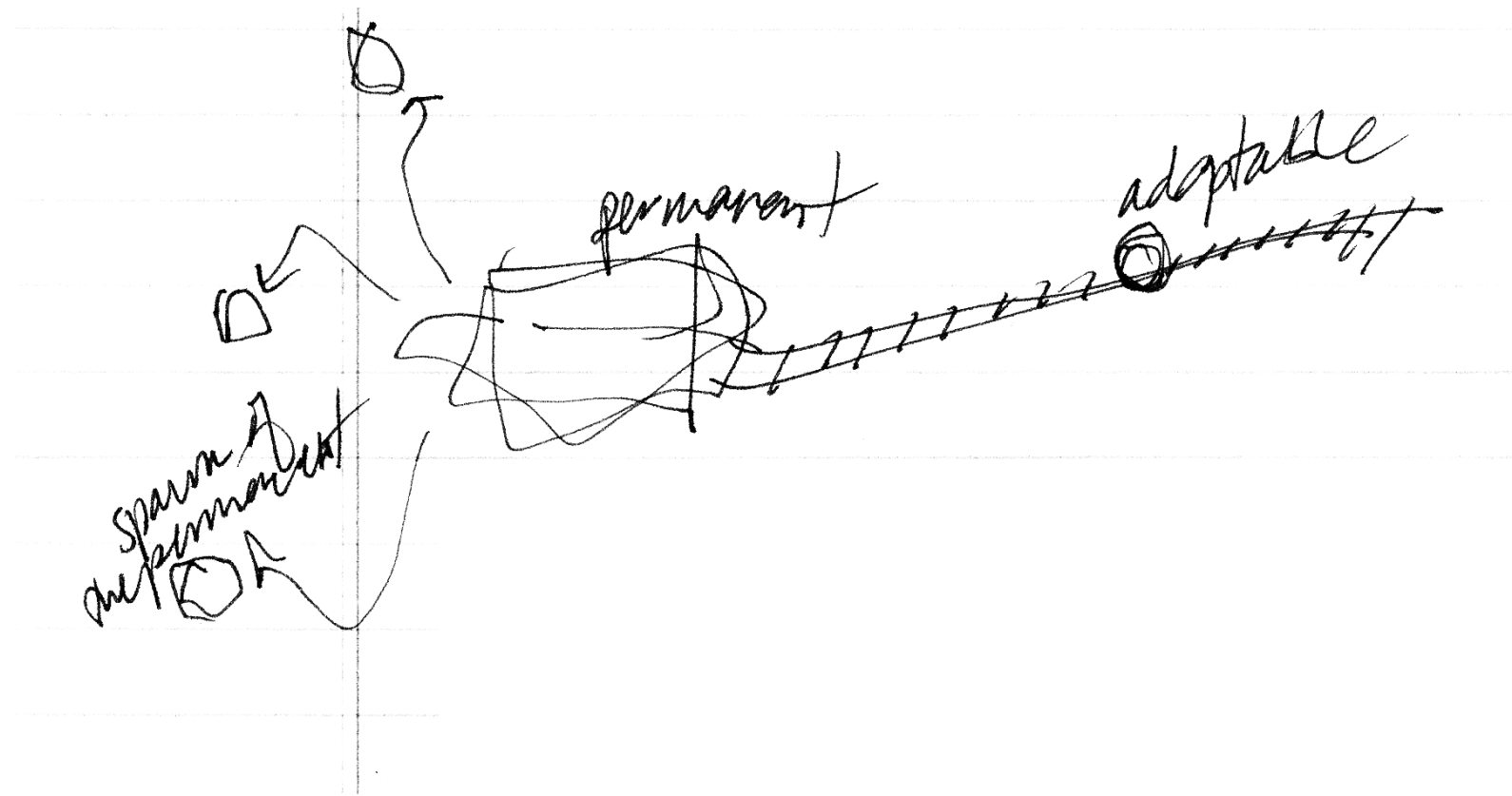
SUMMARY

In summary, history is what defines our cities. Over time, our cities evolve, creating new opportunity and development juxtaposed with the old. As focus turns to these areas of new development, other neglected areas fall through the cracks. A thorough analysis of the strengths and weaknesses present in a community promotes self-observation and reflection. Installations representative of these in the urban community can be a catalyst for change, creating momentum for new, smart development.

With the ephemeral nature of society comes the question of the validity of static, non-flexing environments. Architecture should strive to adapt to changing needs within its context. Designing to increase the capacity of a building to be a relevant and integral part of society makes it become a more fixed piece in the history and identity of the city.

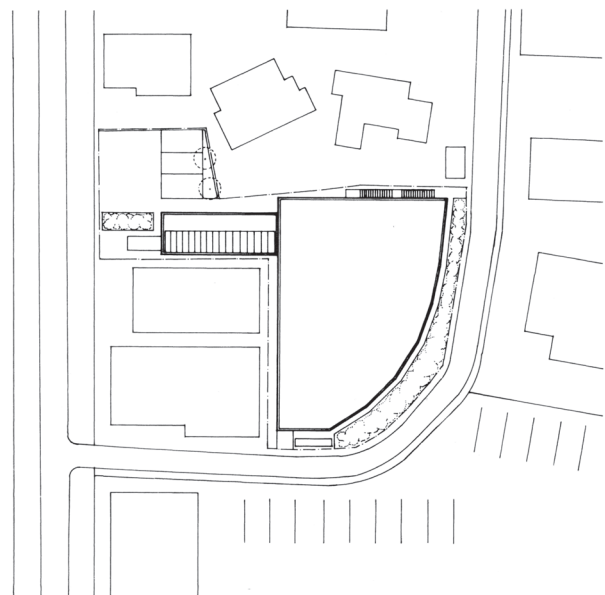
We can use the idea of adaptable, parasitic architecture to intervene within the void spaces of use that have presented themselves over time. This idea is effective in the respectful preservation, protection, and celebration of the discarded remnants that identify our cities, creating richness by marrying the old with the new.





ITM BUILDING
TOYO ITO

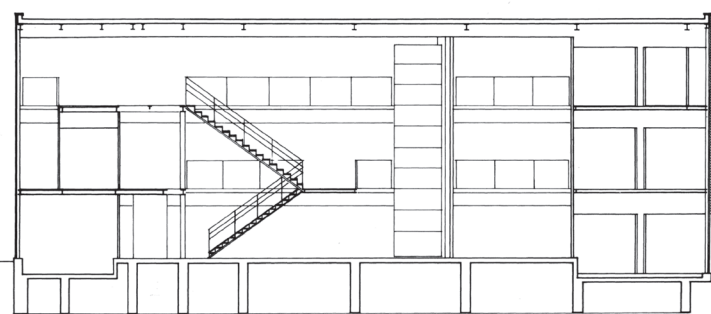
MATSUYAMA, SHIKOKU



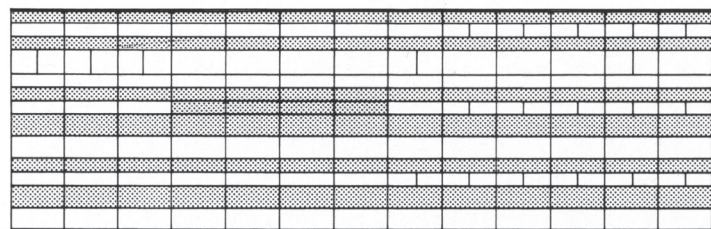
The ITM building is a three-story steel frame office building containing 1,255.68m² total floor area (Toyo Ito & Associates, Architects). Designed by Japanese architect Toyo Ito, the building is located in the city of Matsuyama on the island of Shikoku. This project was not chosen for any recognition of typological similarities- this is not a museum. It has a completely different program and purpose. The study or analogy made here is in its conceptual underpinnings.

The building is located on an oddly shaped corner lot in a densely developed urban area. The form is translucent-defined by filling in the void created by its congested context. This translucency alludes to this building being penetrable; it is not a solid object. Ito attempts to dissolve the facade at the street level, creating an interesting dialogue between inside and outside. The interior is reduced to minimally defined spaces, allowing for flexibility in their use and interpretation. "Architecturally, it represents an important step in Ito's quest for the mastery of material means through rarefaction of space and form" (Schmiedeknecht, 1998).

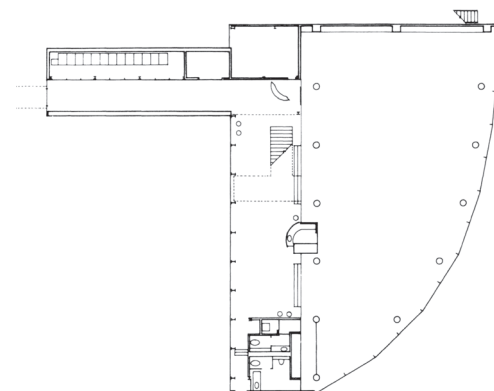
I appreciate the ideas studied in the creation of this project: the relationship or impact of opaque facades at street level; the simplification of form and program in an attempt to free the space; responding to the unique, difficult characteristics of the undeveloped site; the idea of translucency in the way it occupies space- avoidance of being an object in space. I feel however, the concepts are more powerful than the executed project derived from them. I appreciate them all the same and enjoy Ito's studies of these ideas in similar projects, such as the Shimosuwa Municipal Museum.



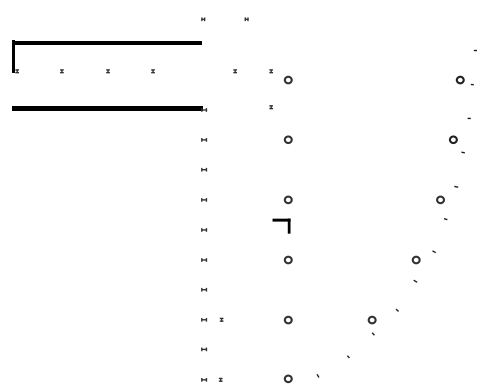
section one
natural light



east elevation

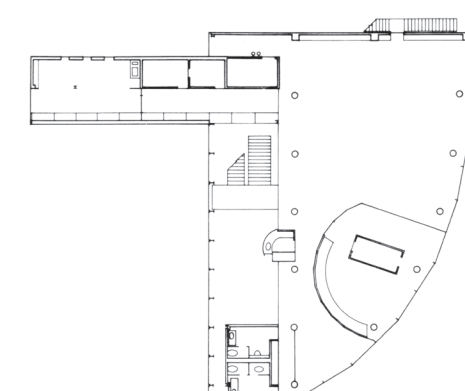


floor one

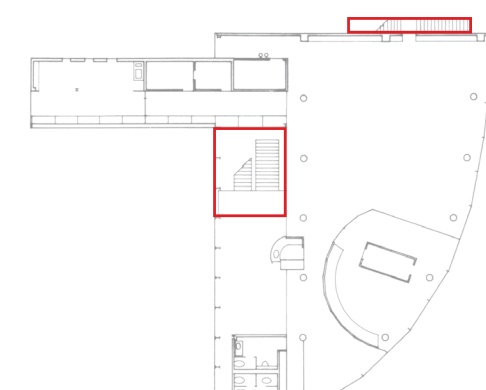


structural analysis

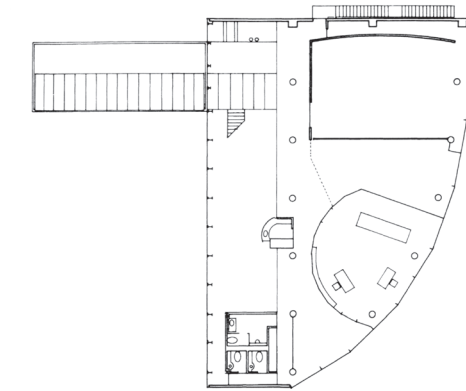
(Schmiedeknecht, 1998)



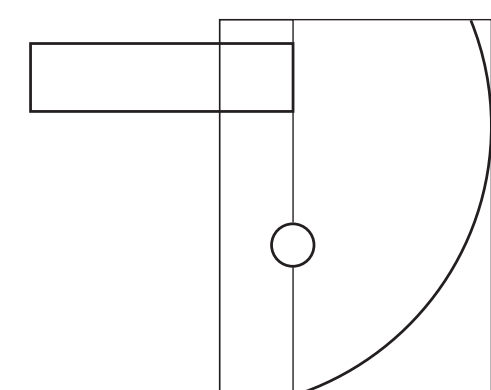
floor two



circulation study



floor three



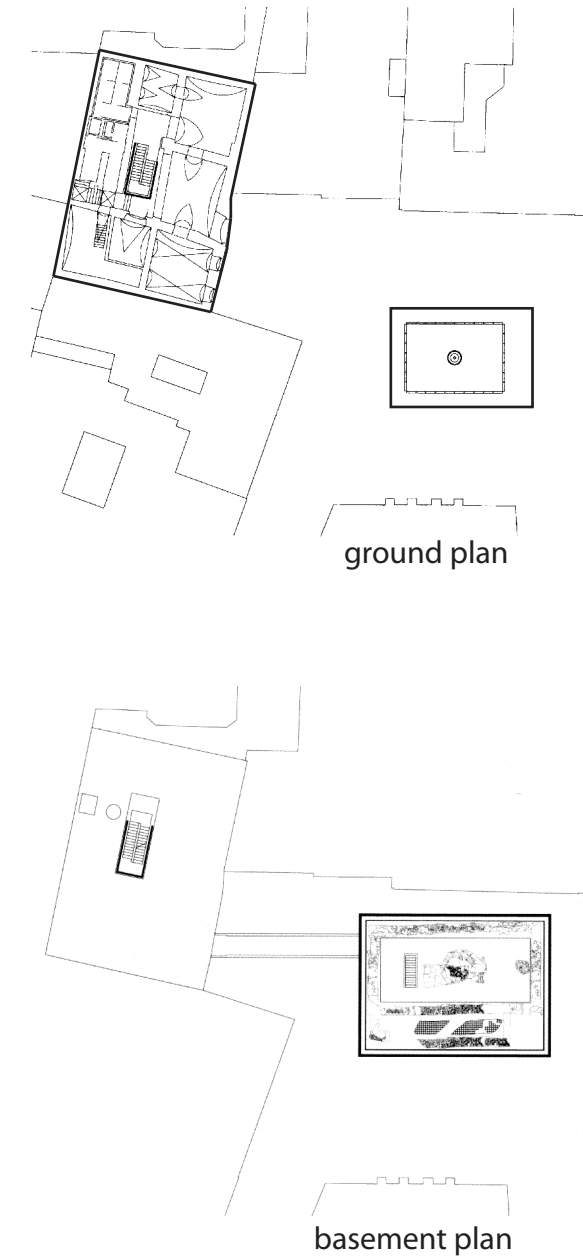
underlying geometries



**MUSEUM JUDENPLATZ AND MEMORIAL
JABORNEGG & PALFFY
RACHEL WHITEREAD**

VIENNA, AUSTRIA

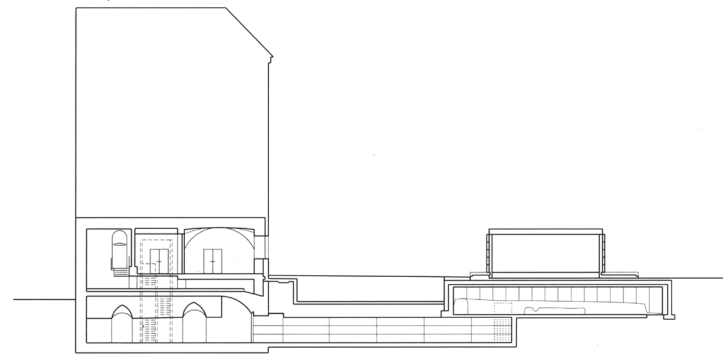
image source: (Phaidon, 2004)



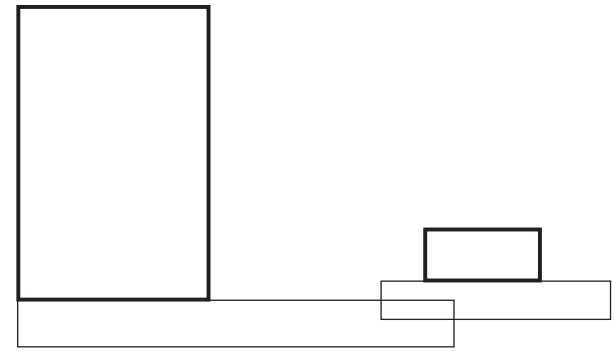
(Phaidon, 2004)

The Judenplatz is a combination of three spaces each reflective of the history and strife of Vienna's Jewish community. The 8,580-square-foot museum is comprised of archeological excavations of a medieval synagogue which had been destroyed in 1421, Rachel Whiteread's Holocaust memorial and a museum showcasing medieval Jewry, housed in the adjacent Misrachi building (Architectural Record, 2011). Together these elements represent the story of the Jewish people through factual information, historic artifacts and conceptual representation.

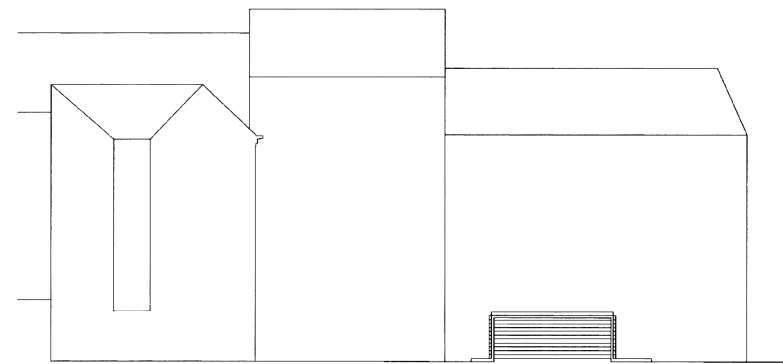
Similar to the other projects discussed, the Judenplatz reuses a building with a long, juxtaposed history in a dense part of the city, rich of important elements of the city's foundation and history. The new construction marries the old with the new as a way to showcase the history, rather than falsely imitating it. Unlike the others, this site contains a combination of elements all centralized around the Jewish people of Austria –both a dedication to the travesty brought upon them during the invasion of Nazi Fascism and a celebration of their history and culture (Jewish Museum Vienna).



section one
natural light

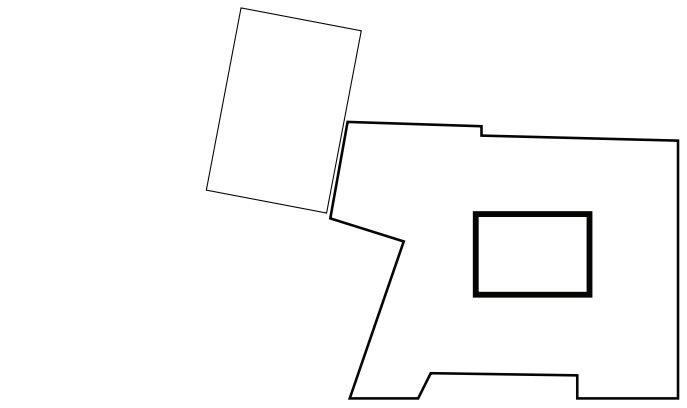


geometry/ hierarchy

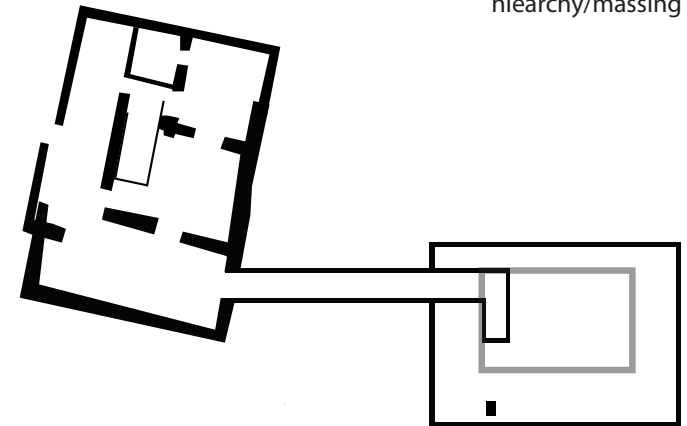


elevation/ massing

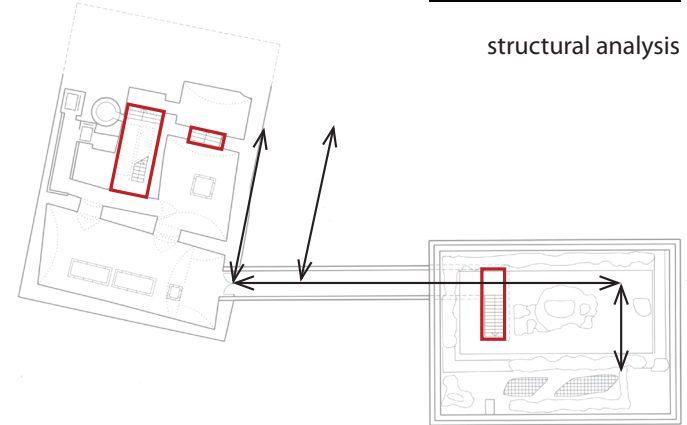
(Detail, 2001)



hiearchy/massing



structural analysis



circulation study

(Detail, 2001)



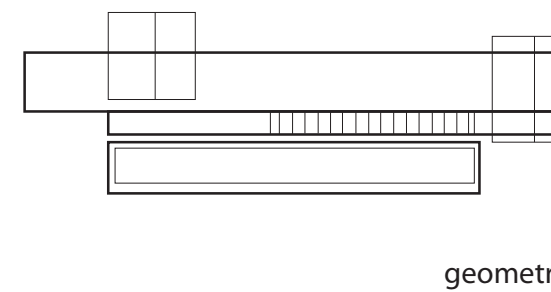
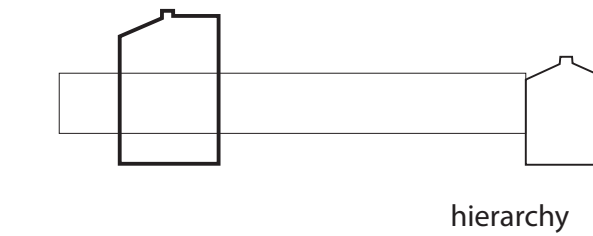
This project responds to the site because the site gives it purpose- without the site, it would not exist. The memorial is over the archeological site, preserving part of the city's history and making it accessible. This reuse of the structure and preservation of a historic site have positive environmental and social aspects. It serves to educate people of the tragedy that was the Jewish genocide and create a space were the culture that was lost can be recreated, shared and celebrated.

There are many reasons why I chose this as a subject to study. I appreciate most the evident conceptual thought that created this memorial. The artist, Rachel Whiteread whom I've long admired, has an interesting body of work reflecting on "presence" and "absence". I believe this is a stunningly simple example of this. The spines facing inward shows the intangible loss of life and with that, loss of knowledge, culture, and history that resulted from the war—now cast in a permanent structure. The doors, also cast inward, are not accessible. The building folds in on itself and is uninviting- yet it is located in the center of a busy square. I think its scale in its context makes it quite powerful- small, timid, modest and quiet, it does not compete for attention. Attention is granted by its placement in a void space, covering and protecting ruins of its past and calling attention to its complete emptiness; a structure present only to make aware its absence, holding answers to questions that can't be asked nor answered. "What remains hidden within the perimeter of this room goes well beyond the borders of Austria to reach the memories of all those who can still remember" (Rosa, 2003).



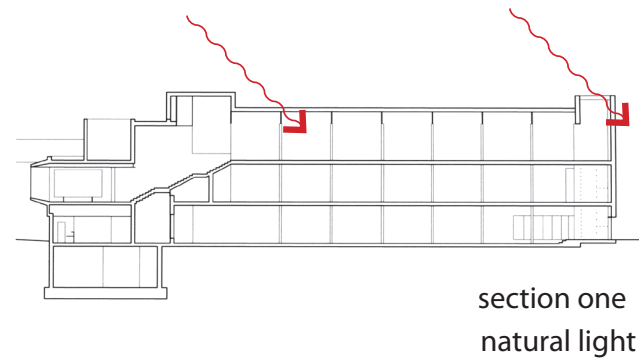
MUSEUM CAN
FRAMIS
BAAS

BARCELONA, SPAIN

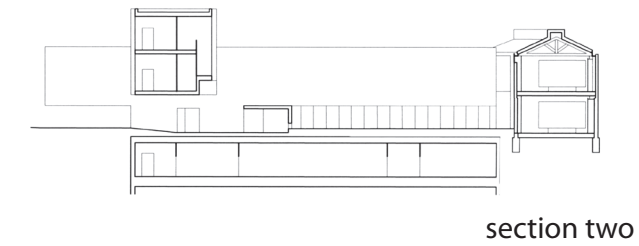


The Museum Can Frammis is a 58,857-square-foot museum of modern and contemporary Catalan art (Architectural Record, 2010). The site is located in a former factory/ heavy industrial zone of Barcelona. The city has organized the redevelopment of this area into a new service and tech corridor (Architectural Record, 2010).

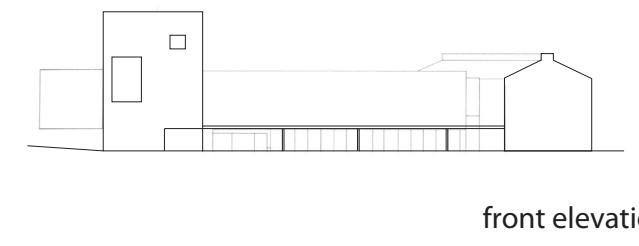
The addition of a new wing bridges the two decrepit structures of little architectural worth, previously inhabited by factory workers. This new structure mimics the linear language of the existing site and encloses a courtyard between the now three buildings. The courtyard is paved with stones recovered during the renovations of these structures and is a nice contrasting environment to the surrounding busy streets.



section one
natural light



section two

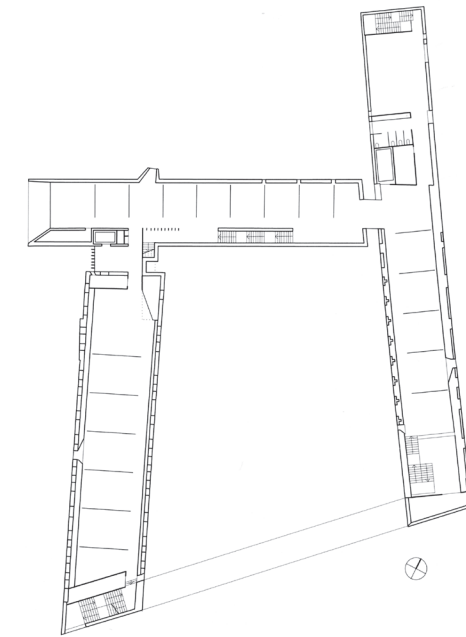


front elevation

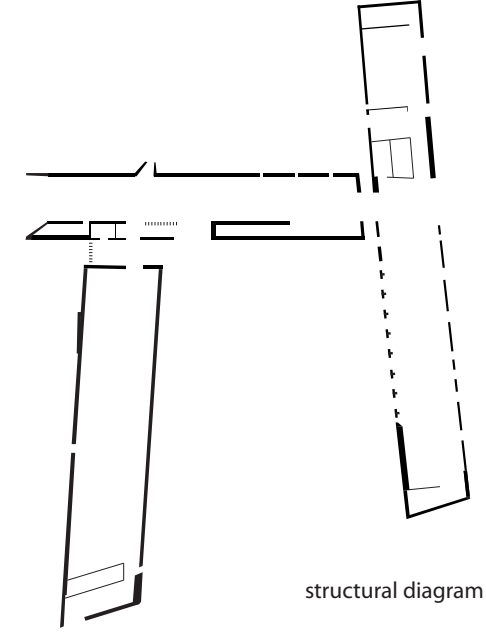
(Detail, 2011)

The site is naturally sunken down five feet below street level. This effect makes the interior garden/courtyard and the arrangement of trees and winding pathways around the site more apparent. You enter the site under a large horizontal plane that defines the area between the two old structures and works to marry the new exposed concrete of the addition with the lime mortar of the structures. This juxtaposition of materials helps to merge the new with the old and creates a dialogue between the two. Once in the courtyard, you enter into the new addition which houses exhibition galleries, workshop classrooms, a warehouse and garden (K., 2009). The galleries have little interior walls and the geometries of the buildings shell can be felt on the interior in these lowly lit rooms.

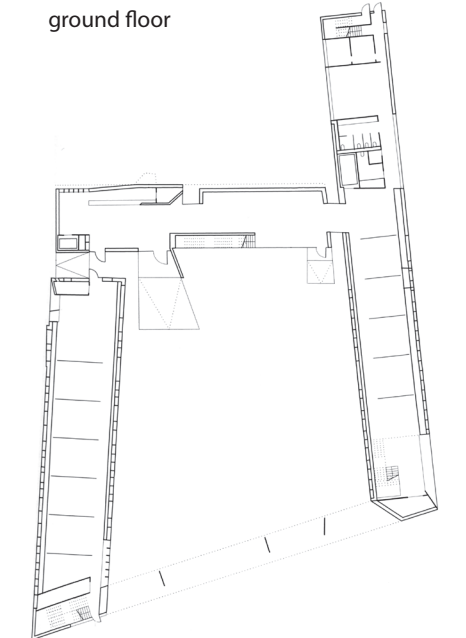
I chose this project for the way it successfully integrates new construction as a way to revive lost energy present in these two discarded structures. The new addition in a way is 'parasitic' as it attaches to both of these buildings but in a very respectful way. The vacant space between the buildings is given purpose and defined through the adding of this new linear structure, which I think is a very simple yet powerful move. I appreciate the careful composition of materials to create a similar language with the new construction and also the reuse of the stonework for the courtyard, which would have most likely been thrown away otherwise. This project can be a helpful typological study when figuring out programmatic needs and appropriate space allocated to the various functions of the building.



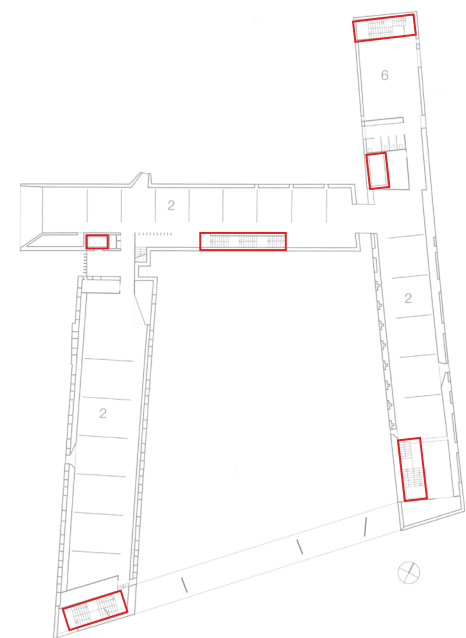
ground floor



structural diagram



level one



circulation study

(Detail, 2011)

TYPOLOGICAL RESEARCH

SUMMARY



The projects discussed here, as well as others studied, provide evidence relating to the validity of the theoretical premises stated earlier in this proposal. The common characteristic between these specific case studies is careful integration into an existing rigid urban environment—addressing, strengthening or filling void space and occupying structures void of use. Abandoned structures contain unused energy and opportunity that without investigating remain dormant in space. The Can Framis Museum and neighboring projects work to redevelop/revive the energy embodied in the forgotten factories of the previous industrial zone. The Judenplatz occupies a structure rich in history, giving it a new life that is layered with the preceding uses.

These projects, as well as others, acknowledge the importance of a city's history through preservation or revitalization of objects/sites to inform and celebrate their importance to the city's past. The New York City Highline, for example, is another redevelopment project promoted by the city's residents. Banding together to act as advocates for this remnant of the industrial era deemed obsolete by developers and scheduled for demolition, residents managed to preserve the site as an integral part of their community's identity. The Highline is one of my favorite projects and is now being developed as a beautiful oasis of parks and gardens that weave through buildings, elevated above the city blocks. Protection of history is also seen at Judenplatz. An archeological site is accessed through

the museum and remains underground. The memorial above calls attention to the void space— a case providing evidence that isolated buildings in the urban environment create strong, negative space, which, in this instance, is the purpose of isolating the object.

“Space is of primary importance for architecture. The obsession with objects has made space secondary, at best”(Woods 2004). The recognition of ‘space’ appears in all three projects. The ITM building attempts to be translucent; it forfeits defining its form to the geometries present in the surrounding context of the site. It acknowledges the character of the space created within itself and the space at the street level affected by its creation. Again, the Judenplatz receives its strength from its placement in space. The Can Framis museum also addresses this idea by bridging two isolated objects and defining a new outdoor courtyard with the same movement.

It is important to note that these projects are all fully realized. I believe the ideas discussed here can also be implemented by less permanent means to act as a catalyst for developments such as these, and to be used as a tool to educate and excite the community. The work of Haus Rucker Co in the 60s and 70s analyzed existing urban environments by making people more aware and curious of both the built conditions around them and the opportunities lost with the lack of intelligent exploration and development. Temporary works like these help to enhance the community and are a proactive means of urban planning. Building something to test its validity or importance to the city's identity, and how the community receives the idea. The ideas of ephemeral or parasitic architecture is a way to sort of add on to an existing condition in an attempt to enhance what is already there, rather than neglecting it and developing elsewhere on an open lot.

Both treasured historical objects and ones left void of use are results of time. As time passes, items of historical significance may be deemed obsolete or are lost due to accident, neglect, disasters, or intents. With the removal of these things comes a loss of information and a connection with the past that cannot be authentically repaired once removed. Physical permanence does not exist and it is a scary thing. If there were a way to pass on this knowledge from built structure to built structure, not by mimicking their techniques, but truly making an attempt to pass on their legacy as we do with family members, our cities would have a much richer, more evident history.

Specifically, in Grand Forks, floods and fires have caused the city to constantly repair itself. After these natural disasters, a real emptiness can be felt. Built pieces that are identified with the city are gone. What is left is void space that is void use. Whiteread's other work exemplifies how one can bring attention and use to void space in her other artwork, which includes castings of the undersides of tables and chairs, the interiors of regular rooms, the outside of mattresses, etc. is related to the concepts explored at the museum; bringing attention to neglected or unrecognized spaces. Architecture can do the same, maybe not by permanently building structures to fill in these spaces— but by reminding people that the spaces are there. ‘Space’ is not a problem that needs to be carelessly filled as a solution. If the value were given to space—the spaces that we do have would be properly used and appreciated.

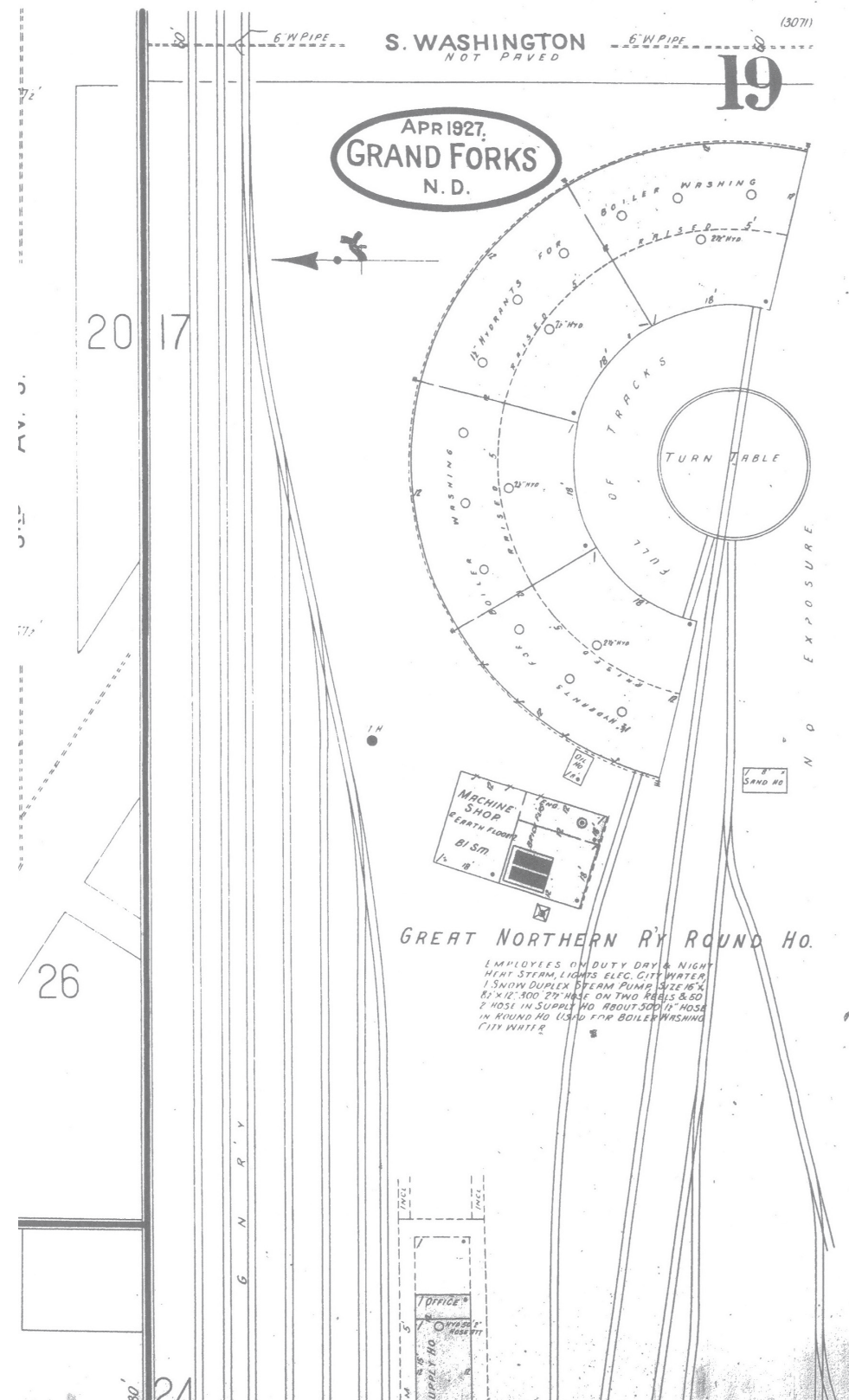
GOALS

There are many that will be explored with this project. Personally, I would like to gain a deeper understanding of the inner-workings present in the community I grew up in. Seeing a city rebuild itself after a devastation like the flood can is inspiring. New urban planning projects, such as the Greenway, are an attempt at making a more enjoyable urban environment. The Greenway integrates itself organically into the landscape, its multiple paths weaving together, allowing pedestrians to meander in unscripted. I want to create a structure that gives that same freedom to the river the flows through, divided the two cities.

I also want to inform/educate people on the importance of preservation. This bridge that was once a vital part in the settling of this region is now gone forever. Creating the means for it be accessed and appreciated if my goal.

In the academic realm- I hope to explore new methods of construction that are able to adapt and absorb the changing landscape. I also hope to define what a 'museum' is, specifically to the community of Grand Forks and how it can be constructed as a more interactive, less fragile piece of architecture.

This project, in summary, will be an analysis of community, a study in 'adaptable', flood-resistant architecture and an exploration of the true value and meaning of museums/monuments in our modern time.



**HISTORICAL
CONTEXT**

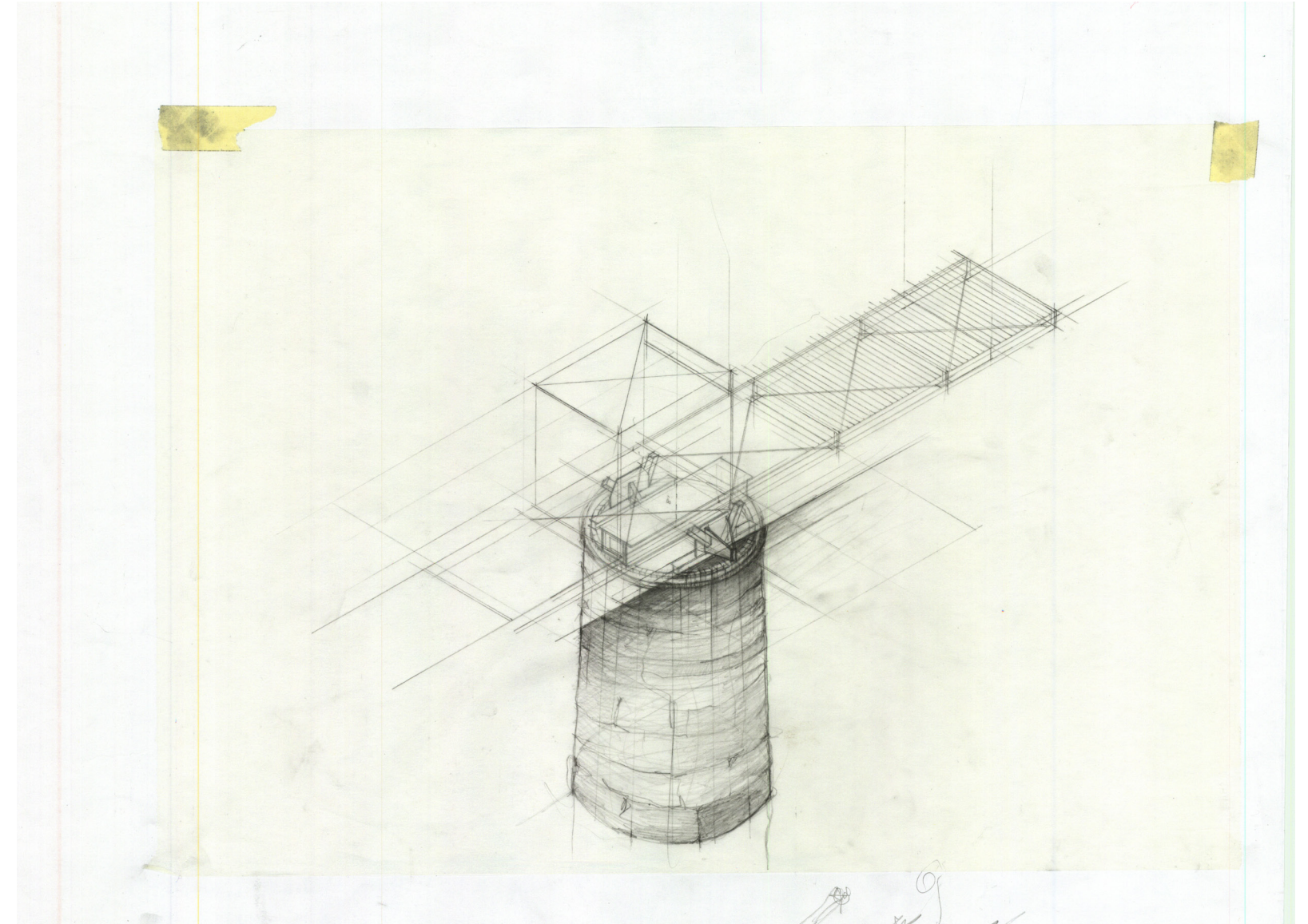
The coming of the railways in the late 1800s stifled the steamboat industry. The first railway to reach the territory was the St. Paul, Minneapolis and Manitoba Railway in 1878. The Great Northern swing-bridge was completed across the Red River in 1880; the Northern Pacific to follow years later in 1887 (Tweton, 1986). During this time the law required any entity crossing the river to still accommodate river traffic on a navigable waterway. Though commerce on the river had decreased in the recent years, both bridges were still constructed to move.

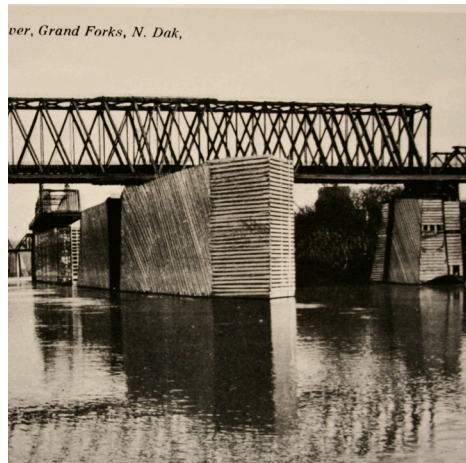
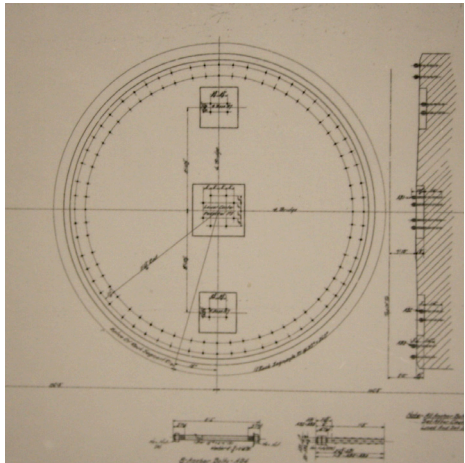
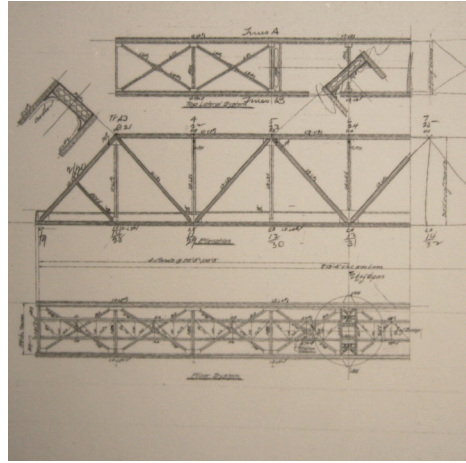
The original bridge design consisted of a main 220-foot timber Howe through-truss swing span with a 120-foot Howe through-truss approach span at the Minnesota side of the river and a 75-foot Howe pony-truss approach on the Dakota side (Denis P. Gardner, 2000). The substructure was comprised of a cylindrical stone pivot pier- reflective of high craftsmanship of a bygone age, that helped support the main span, timber crib piers supporting the main approach and numerous timber pile bents for the remaining approaches. No operator of engine was ever built into the structure, which would require the swing to be manually operated. There is no evidence indicative of an electric or mechanical motor of any kind (Denis P. Gardner, 2000).

Both communities on either side of the river benefited immensely from the influences of the railroad traffic. This made the sparsely settled area more accessible to immigration from both Europe and the densely populated east coast. It also boosted agricultural production greatly now that farmers were able to send their goods east. Between 1880 and 1890, the population of Grand Forks increased dramatically by 3,000 people (Tweton, 1986). The growth in people and industry is reflected in the amount of freight carried in and out of the area by rail. The steamboats could not compete with this industry (Denis P. Gardner, 2000).

The site chosen is on the boundary between North Dakota and Minnesota and was previously occupied by a major railway for over 100 years. The Northern Pacific Railway has a deep connection with this city's foundation and the growth in industry, population and agriculture. The site has seen many evolutions through time due to changing needs within society and to the adaptation necessary of the city's location in the flood plains. The pivot pier, an innovative engineering feat for its time, is all that exists from the original construction of the bridge in 1887 (Denis P. Gardner, 2000).

Grand Forks is located on the confluence of two rivers- the Red River flowing north and Red Lake River coming in from the east. Dominated initially by fur trade on oxcarts, the trade industry shifted once the Red River was discovered as a navigable waterway. "It was the coming of the steamers that initiated the first large influx of settlers to the territory, those pioneers bent on creating permanent communities in an untamed land" (Denis P. Gardner, 2000). Goods were now easily transportable to Fort Garry (know today as Winnipeg) a major port to the north (Denis P. Gardner, 2000). The traffic on the river made Grand Forks an important navigation center, with the Hudson Bay company establishing a boat yard and the Red River Transportation Company moving their headquarters here (Denis P. Gardner, 2000). It was operations such as these that stimulated local economy, aiding in Grand Forks' beginnings as a strong and prosperous community.

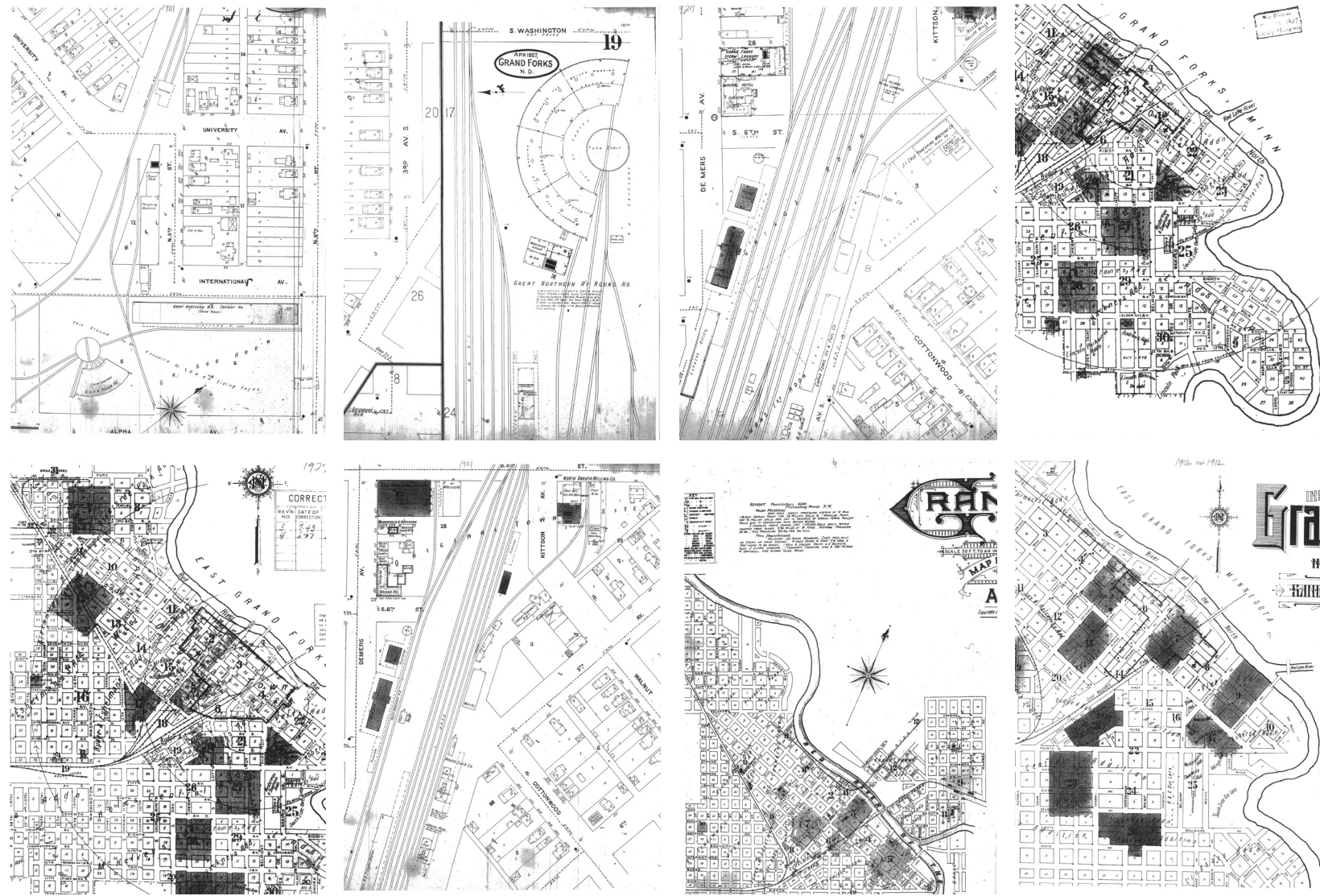




Through the years the NP went under construction multiple times. Due to the various problems that arose, the pivot pier has held three separate completed bridges, built in 1887, 1902 and 1917 (Denis P. Gardner, 2000). In 1966 the government concluded that the bridge would never need to be opened again, due to the halt of river traffic. During this time the city began to focus its development efforts outward away from the river. The focus was no longer on its historic center, but on the perimeter- an affect happening to many similar cities across the country. The process of 'decentralization' continued to intensify in the following decade as the city turned its back on the downtown environment (Tweton, 1986). The popularization of the automobile is evidence again of how transportation has shaped every stage of this city.

The bridge still remained a vital railway up until the late 1970s after the rail merged with another rail company to become Burlington Northern (still referenced as the NP by the community) (Denis P. Gardner, 2000). The bridge was no longer utilized enough to remain a valuable source to the rail company and was sold to the city of Grand Forks in 1983. The Great Northern Bridge to the south still remains active today. The city received a grant to convert the unoccupied NP rail into a pedestrian bridge as part of a larger urban redevelopment plan, linking the neighboring communities (Tweton, 1986).

Thought to be contribution to the volume of water flooding in the spring, the bridge was scheduled for demolition- despite efforts of the Grand Forks Heritage Preservation Commission, local citizen's groups and the State Historic Preservation Offices in both states advocating to preserve the bridge as a valuable, irreplaceable historic resource (Denis P. Gardner, 2000). The document referenced here is an example of the work collected to convince local government to seek an alternative. As a compromise, the pivot pier remains in the river as a visual reminder of the role the railroads played in this areas development. Ironically though, during debate the pier was assumed to be the largest contributor to the flooding, so I can only assume the cost of removing a structure of this nature would be too expensive and that is the reason it was left in the river. The 124-year-old pier, whose turntables are visible from the shore, is a fascinating artifact that now stands alone and merely raises questions as to its origin and purpose for remaining present in the river.

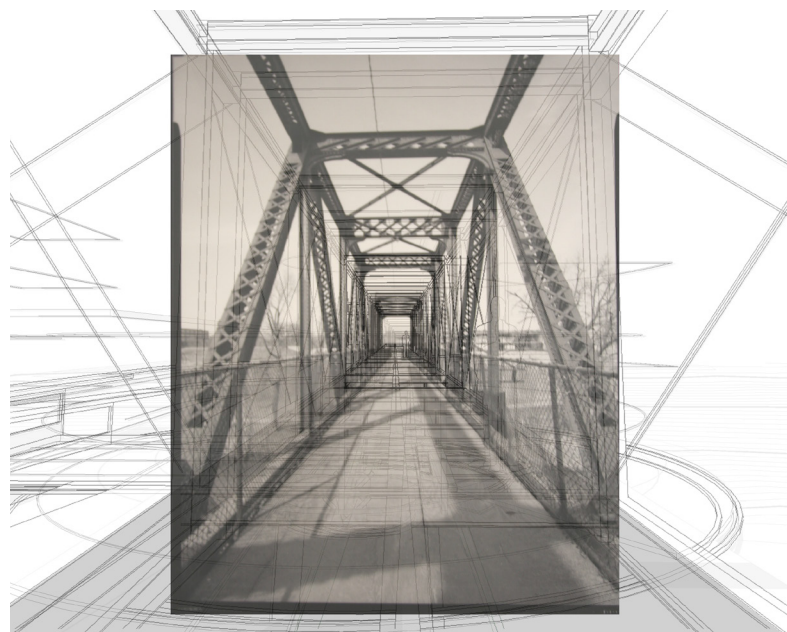


Sanborn Fire Insurance Maps, Grand Forks, ND



images courtesy of (Denis P. Gardner, 2000)

(Tweton, 1986)



SITE ANALYSIS QUALITATIVE

Considering access to the actual footing is not possible, the site characteristics are partially assumed by taking information in from both banks of the river and the bridge close to the south of the site. Standing at various locations that circle this inaccessible spot you start to imagine what impressions might be felt when suspended over the river. Considering the project will consist of structures both on the footing and on adjacent land on either side of the river, the following will be an analysis of the portions of the neighboring downtown communities visible from the site.

What I find most interesting initially is the shift in density as the city moves away from the river. The natural landscape merges with the paved bike paths and groomed lawn. A less harsh transition can be seen where dikes are gradually built up to the height of the levee, where as other areas of flat land abruptly meet at the base. Beyond this is downtown Grand Forks, which is partially obstructed from view from this built wall. This wall or levee is clearly avoided on its perimeter as anything unable to withstand flooding water set back and separated by paved parking lots. Density is different on the less developed Minnesota side of the river and also visibly changes down the river. Places that were previously developed are now bare due to the threat of flooding- a comparison that can be made only by the residents of the city.

The infrastructure of the downtown environment overlay a dominant rectilinear pattern. The fluid, organic path of the river is a nice contrast as it flows between the two cities, breaking these rigid lines. Another interesting feature is the man-made bike paths of the Greenway project that mimic the lines of the river and meet at various access points to sidewalks- based on the same gridded pattern of the streets. These patterns also affect the way people interact on the site, whether they walk in a more organic or direct path.

Pedestrian and vehicular traffic changes are affected by the time of day and the change in seasons. The site itself is free of vehicular traffic but it is closely visible. The bridge carries a moderate amount of traffic all day, being one of three connections between ND and MN. An influx can be expected during lunch hours, after work hours and on the weekends. Traffic is fairly quiet with a speed limit of 30 mph and stoplights at every intersection. Large trucks/semis seem to avoid the downtown area as it is easily congested. Parking lots line both sides of the side, public on the MN side and mainly private on the ND side, both rarely if ever reaching full capacity.

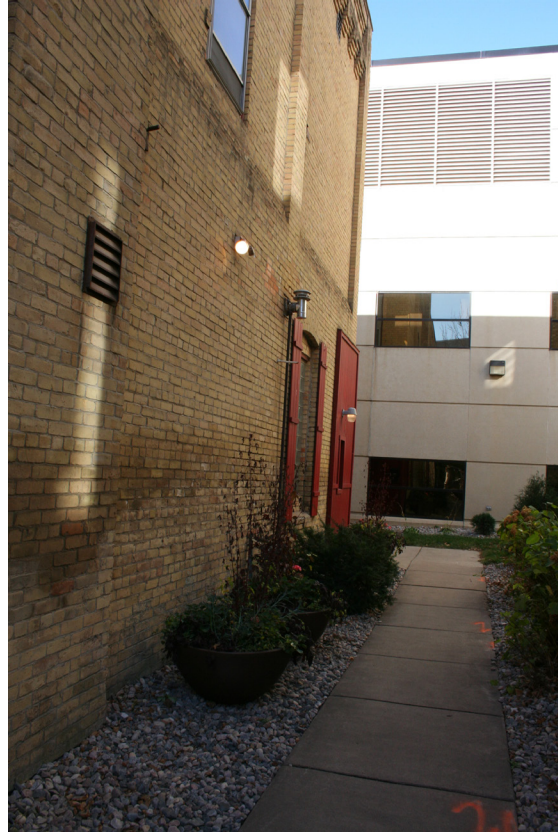
Little pedestrian traffic was seen during the recent site visit, which suggests most buildings downtown provide services not sought by many patrons during the day. More people are attracted to this area when regular and annual events take place in the summer months such as the Saturday morning market, the Art Walk, Cat Fish Days, recreation activities on the Greenway bike paths and river, etc. People remain mostly isolated in the winter, aside from social engagement at church or maybe shopping centers... The downtown area livens up a bit at night also, as there are many bars in close proximity. There seems to be a lack of areas conducive to people just sitting, which may be why people are only seen coming or going.

The presence of people is very apparent on the site nevertheless. The attempt to control this river is evident in ev-

ery direction you look. The pivot pier in the river itself was built by people to aid in the development of this sparsely settled area and allowed for access to lands further West and North. The dike and levee systems are again human intervention. Settling in a severe flood plain comes with its consequences, and this is the cities solution. This wall stifles any relationship there is to be had with the river and the cities residents, hiding and constraining it.

The river allows for nature to still have a strong presence within this built environment. Vegetation, colors and textures will vary with each passing season. The site is surrounded by the muddy, opaque waters of the Red River, whose height will change throughout the year, altering the speed/nature of the current of the river as it flows North. The state of the river changes- freezing in the winter and make it walk-able, allowing people to interact with it differently. The land on the MN side is left to grow freely, containing longer, wild grasses as opposed to the manicured lawn on the ND side. The river-bank near this is muddy and smells of contamination, nostalgic of the odor covering the city after the 1997 flood. There are clusters of heavy tree cover sporadically arranged along the banks of the river. Erosion has made the roots of these trees visible and dying trees begin to lean towards the river. Land near the pivot pier lacks trees, which were probably removed for its construction. The site will dramatically feel each season due to its closeness to both trees and water.

Both areas of the site have little protection from the elements. Depending on how far the project extends west, it may have some protection from wind. The harsh northwest winds in the winter will be slightly obstructed by the trees on the site and the neighboring structures. Both areas of the site will receive full access to summer winds. Bright and direct light is received, though the rising and setting sun on the horizon is blocked from the downtown development on both sides.



EMPTINESS

Spaces created inbetween the development of 'objects'. Left undeveloped and neglected, these spaces create strong voids in the fabric of the urban environment-- unusable spaces due to the close proximity of buildings, undeveloped space between buildings, and buildings void of use.

DISTRESS

Distress is most evident in the older structures near the site. Additions of new technologies tarnish the exterior; spaces are left vacant and unused; history is present- the scorched facade of the Stratford building from a flood induced fire.





HUMAN CHARACTERISTICS

Pedestrian traffic around the site is fairly minimal. This is partly due to the changing season. Not a lot of photos were collected of human interaction. Shown here are people waiting on public transportation, occupying the stairs leading towards the Greenway and adjacent to the pivot pier, biking through on downtown pavement, and leaving a local bakery.

VEGETATION

The landscape surrounding the site is mostly groomed, aside from the areas nearest the riverbanks. Larger trees loom over the river, creating a nice corridor. Seen on the bottom right is the built-up dike that surrounds the city, covered in landscape as a less harsh transition. Small, recently planted trees line the dike on the east side.





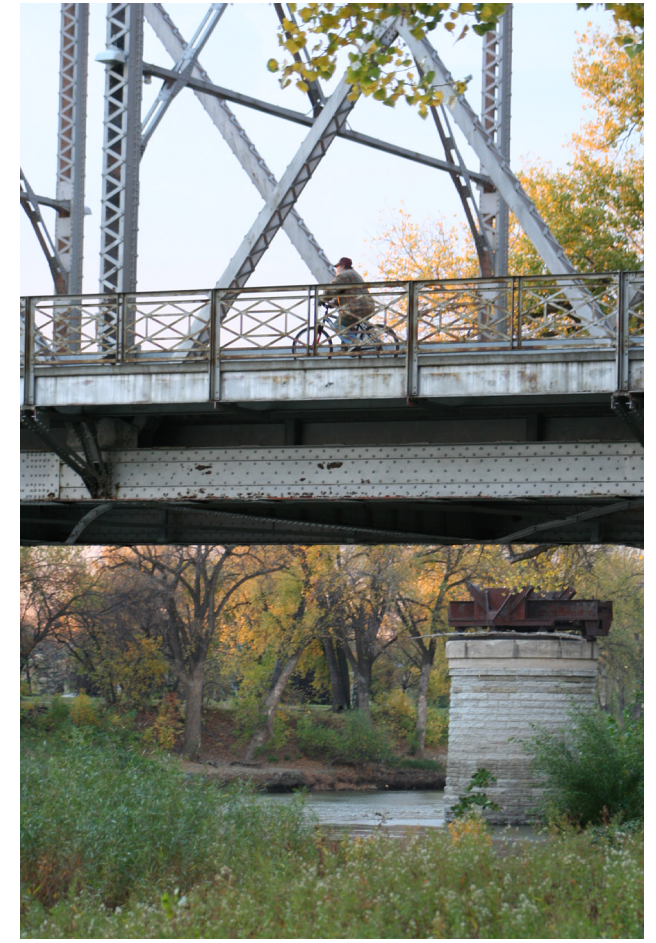
VISUAL FORM

The levee system surrounds and protects the city from potential flooding, blocking it from the river. Active train tracks of the Great Northern Railway pass through. An abrupt shift from dike to pavement is seen lined with railings. The city is set back away from the perimeter of the dikes, with paved parking lots separating them.



TRAFFIC

Traffic surrounds the site in many different forms, and at varying densities throughout the time of day and year. Railroad traffic is still present on the bridge to the south of the site. Bike-paths follow the river and are utilized quite frequently in the warmer months, the Demers bridge carries both vehicular and pedestrian traffic between MN and ND.



**SITE
ANALYSIS
QUANTITATIVE**

- 126
Bearden silty
clay loam
- 79c
Zell-LaDelle silt
loams
- 43b
Cashel silty clay
loam
- 1006
Fluvaquents-
Haploborolls
complex
- W
Water



FURTHER SOIL INFORMATION

126
bearden silty clay loam
slope: none
elevation: 750 to 1,250 feet
landform: flats
landform position: talf
parent material: fine-silty glaciolacustrine
drainage class: somewhat poorly drained
depth to water table: 18 to 42 inches
frequency of flooding: none
frequency of ponding: none
water capacity: high (10.9 in)
ecological site: limy subirrigated
vegetative classification: subirrigated

79c
Zell-LaDelle silt loams
slope: 1 to 9 percent
elevation: 750 to 1,250 feet
landform: terraces, flood plains
landform position: tread, talf
parent material: fine-silty alluvium
drainage class: moderately well drained
depth to water table: 36 to 60 inches
frequency of flooding: rare
frequency of ponding: none
water capacity: high (12 in)
ecological site: loamy
vegetative classification: overflow

43b
Cashel silty clay loam
slope: 1 to 6 percent
elevation: 750 to 1,250 feet
landform: flood plains
landform position: talf
parent material: clayey alluvium
drainage class: somewhat poorly drained
depth to water table: 18 to 42 inches
frequency of flooding: occasional
frequency of ponding: none
water capacity: high (9.3 in)
ecological site: loamy overflow
vegetative classification: clayey subsoil

1006
Fluvaquents-Haploborolls complex
slope: 0 to 30 percent
elevation: N/A
landform: swales and flats on flood plains
landform position: N/A
parent material: recent alluvium
drainage class: very poorly drained
depth to water table: 0 inches
frequency of flooding: very frequent
frequency of ponding: frequent
water capacity: high (9.1 in)

(Web Soil Survey)



1



2



3



4



5



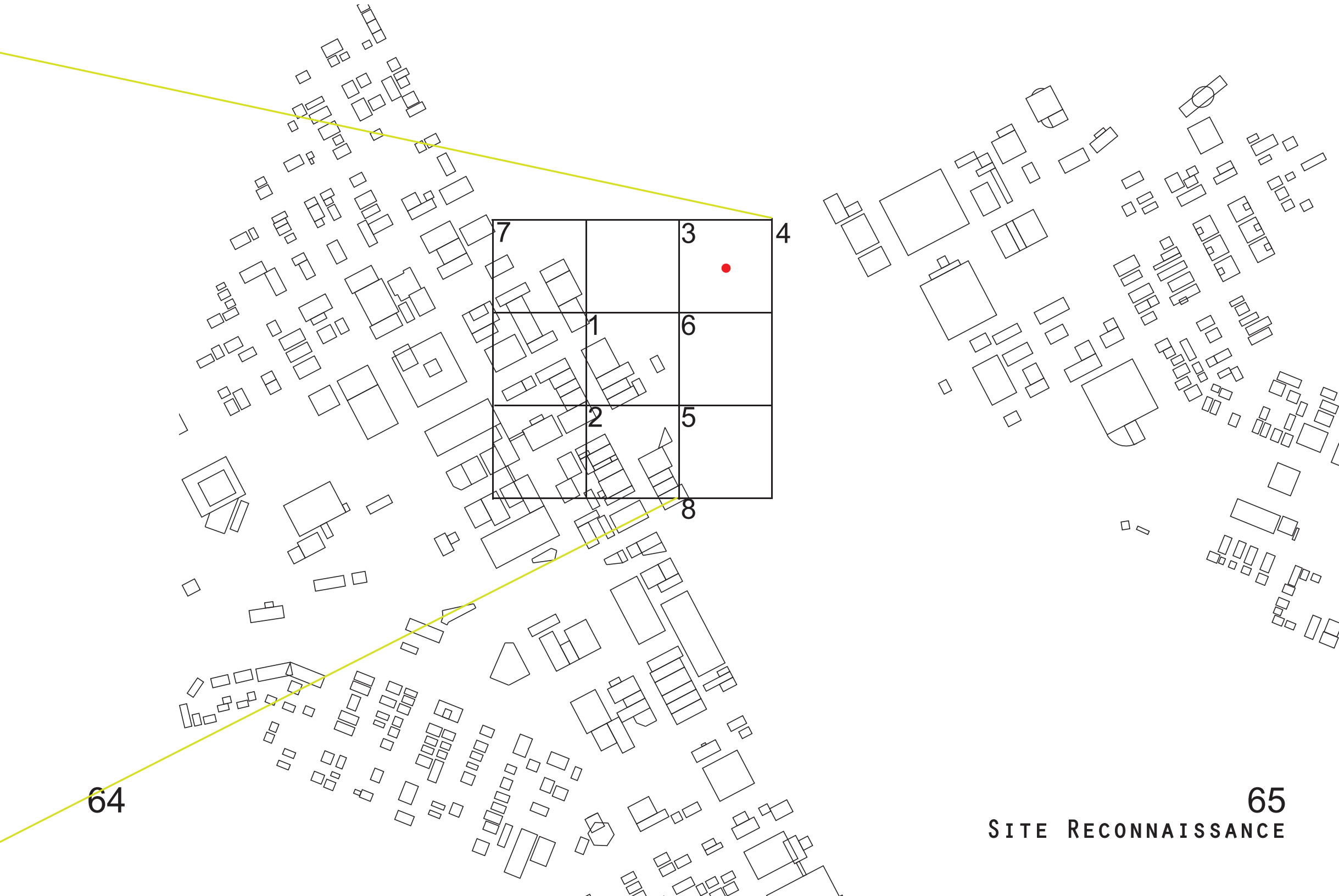
6



7



8



64

65

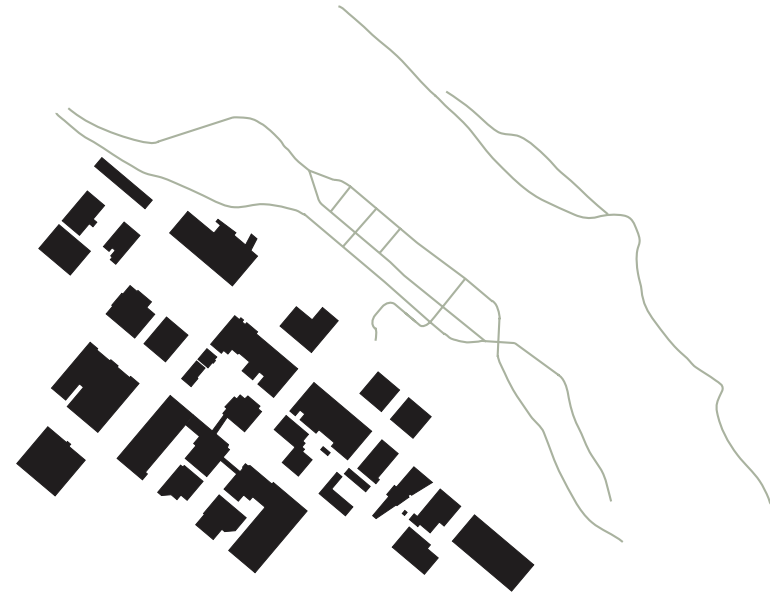


BRIDGES

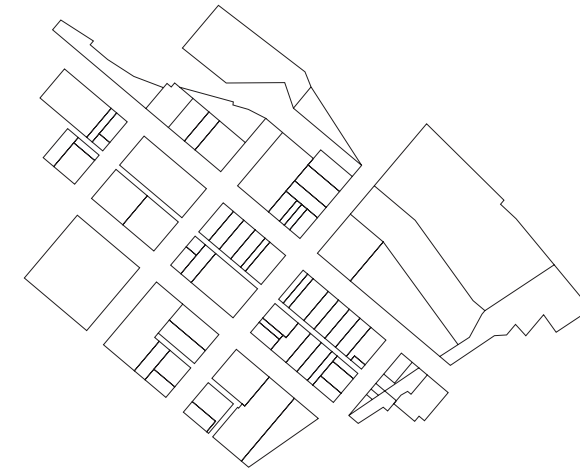
Still present is the Great Northern Railway bridge, situated south of the previous NP bridge. This bridge preceded construction of the NP bridge and was built to accommodate river traffic as well. I am not sure of its repair history, but it can be assumed to have been constructed with similar methods and materials as the bridge under study. To the right is a collage of images of both the Great Northern and Demers bridges that lie in close proximity to the pier.



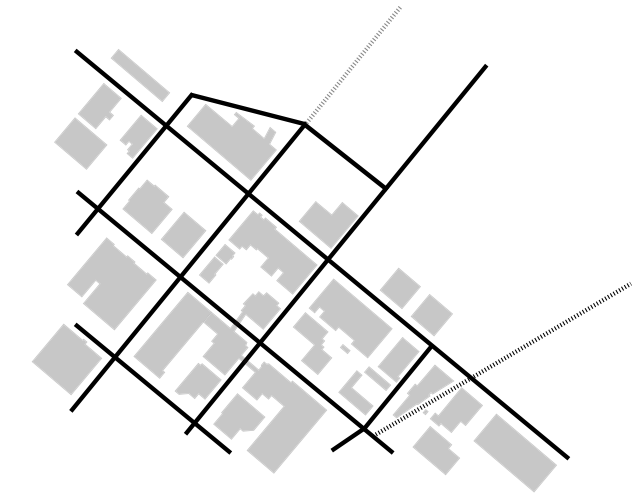
**MAP
ANALYSIS**



buildings + paths location



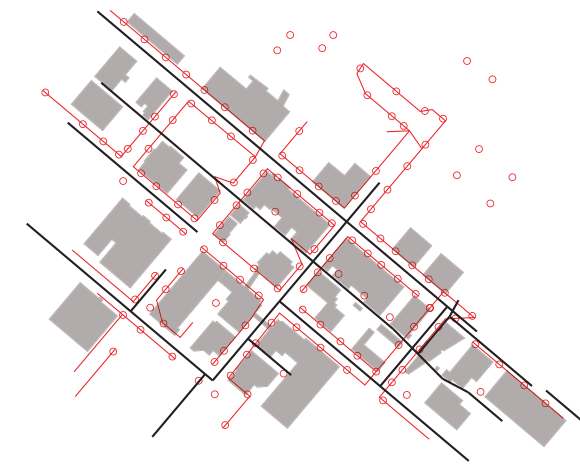
boundaries + parcels



traffic patterns streets + bridges



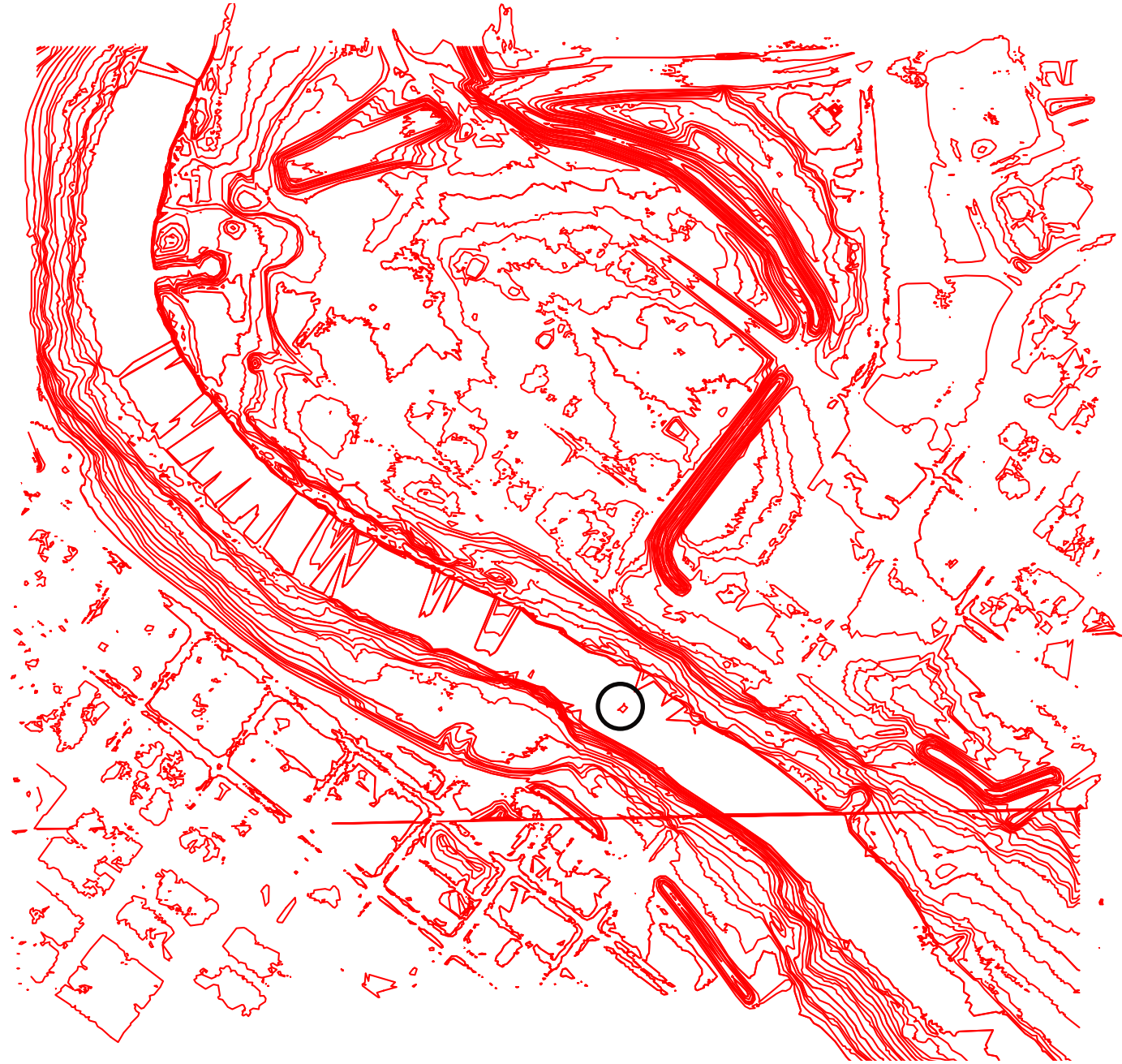
vegetation + water cover



street lights (red) + sanitary system



storm sewer + water system (red)



TOPOGRAPHY

Left is the topography of the Grand Forks area. The Red River Valley remains mostly flat, with dramatic shifts seen at the banks of the river and dikes.

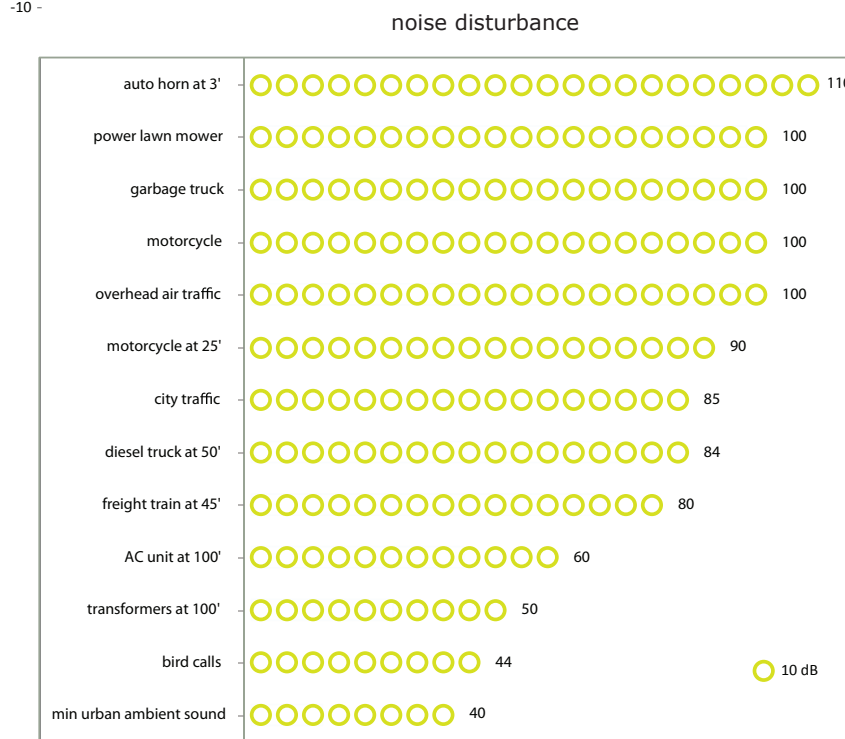
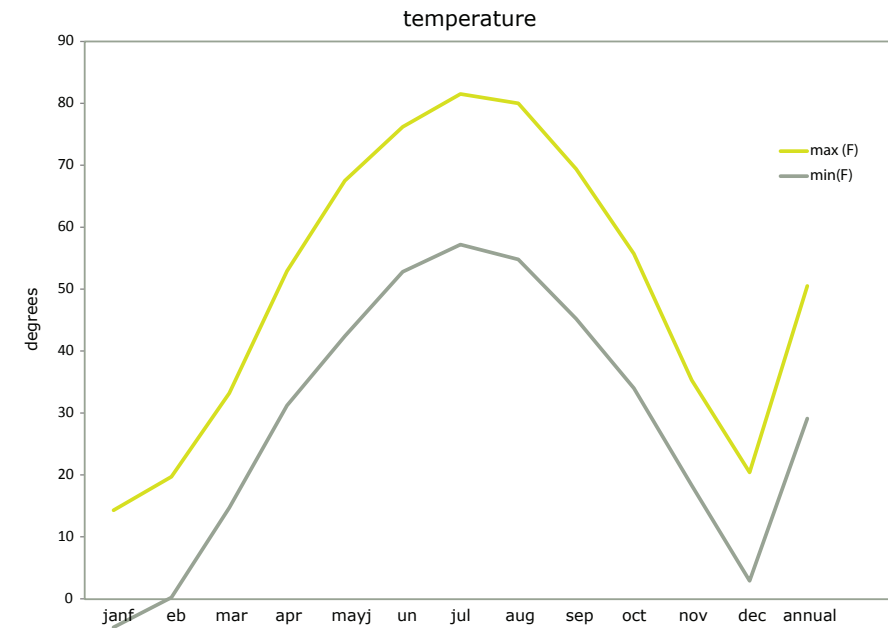
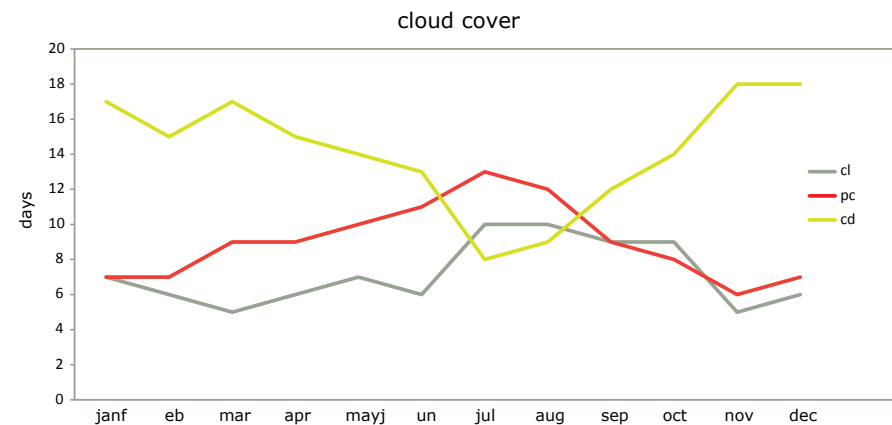
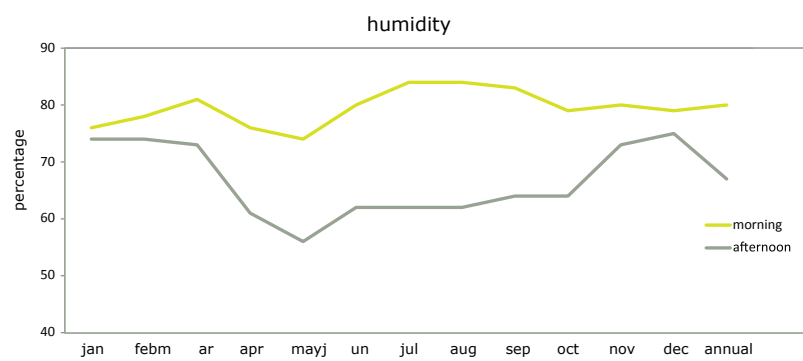
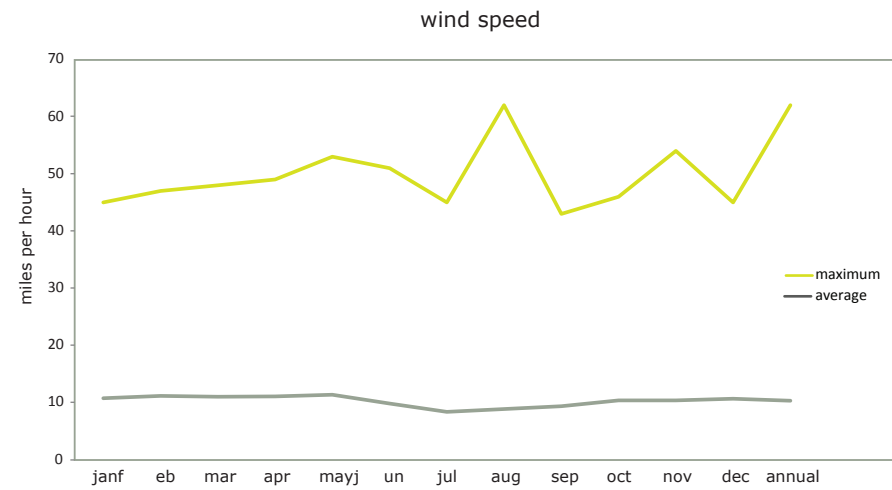
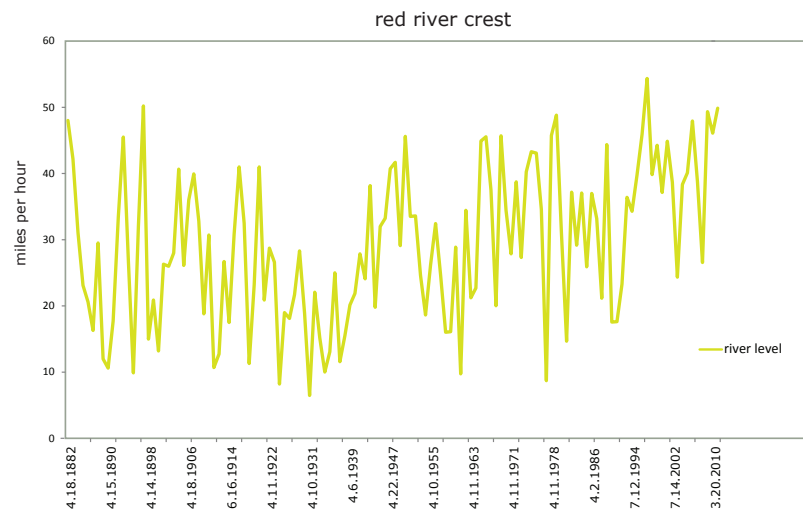
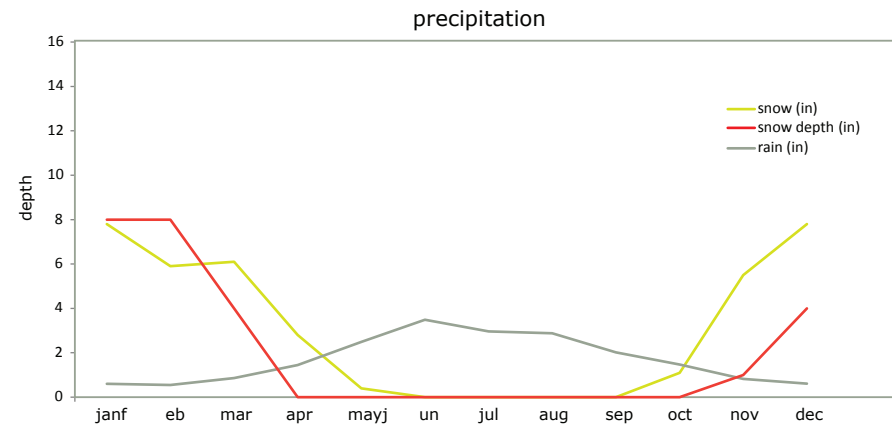
PAVEMENT

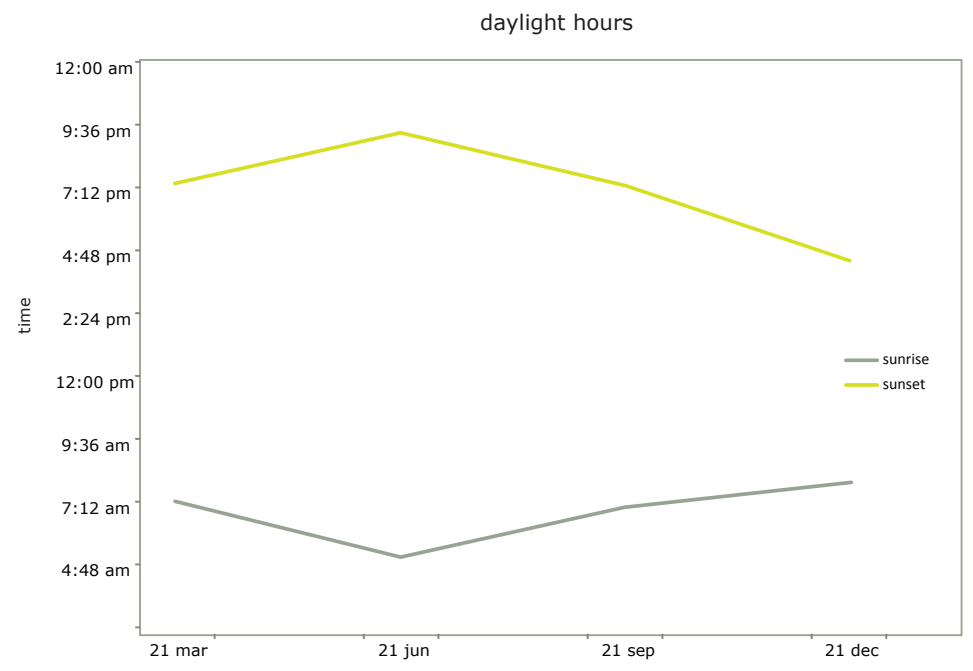
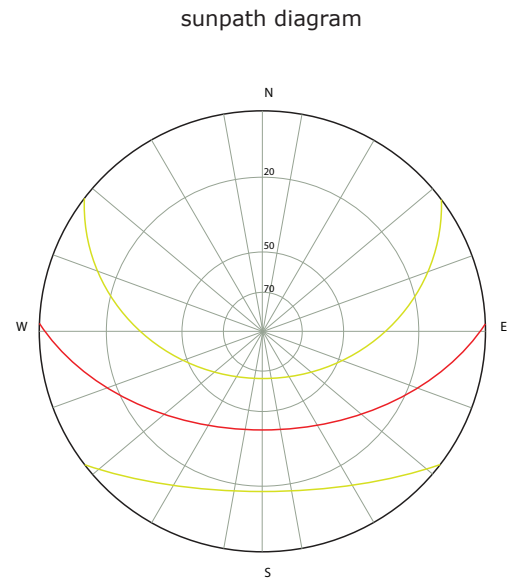
Above is a map of the paved areas in downtown Grand Forks. This helps give an idea of areas of dense traffic.

AERIAL PHOTOGRAPHS

Shown in these photos is the relationship of the site with the both rivers, neighboring bridges, and the surrounding communities on either side. (compliments of google.earth.)

CLIMATE DATA





PROGRAM

total: 56,255 square-feet

entry + lobby
 (2,030 square-feet)
 reception
 information
 public toilets

administrative offices (3)
 (300 square-feet)
 museum personel
 community team

exhibition + gallery- permanent
 (2,625 square-feet)
 historical artifacts
 local artwork

large public gathering
 (2,000 square-feet)
 performance/lectures
 community education

outdoor sculpture garden
 (undefined)
 merges with landscape

courtyard
 (19,500 square-feet)
 public seating
 seasonal vending

warehouse
 (2,200 square-feet)
 collection storage
 permanent archive
 artifact repair/maintenance
 workshop space

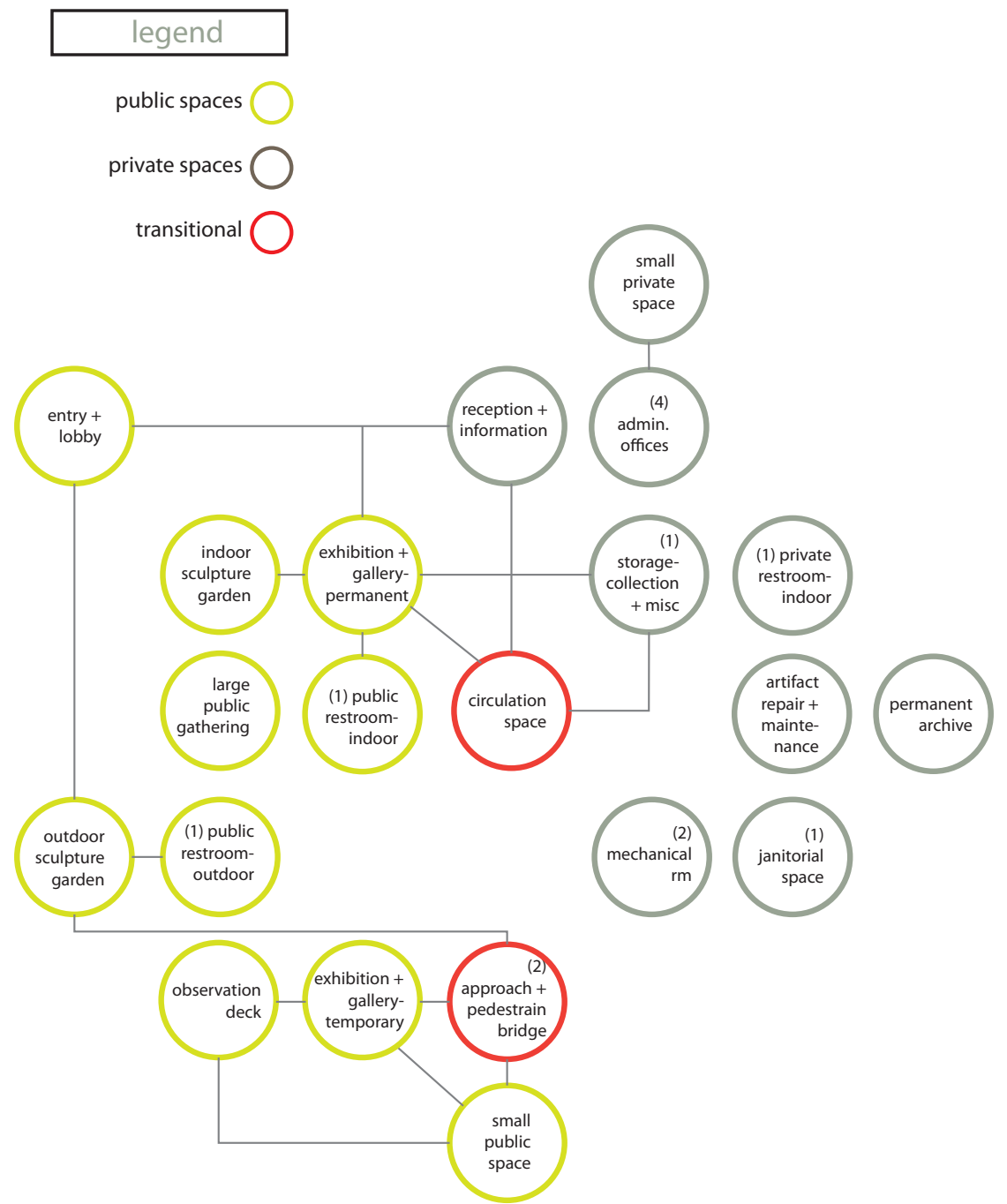
circulation space
 (5,170 square-feet)
 necessary corridors
 ramps

auxillary spaces
 (720 square-feet)
 janitorial space
 mechanical

observation deck
 (5,190 square-feet)
 small public space
 pivot pier showcase
 meditation space

pedestrian bridges
 (16,100 square-feet)
 approach/exit path

private spaces
 (420 square-feet)
 meeting room
 private toilet

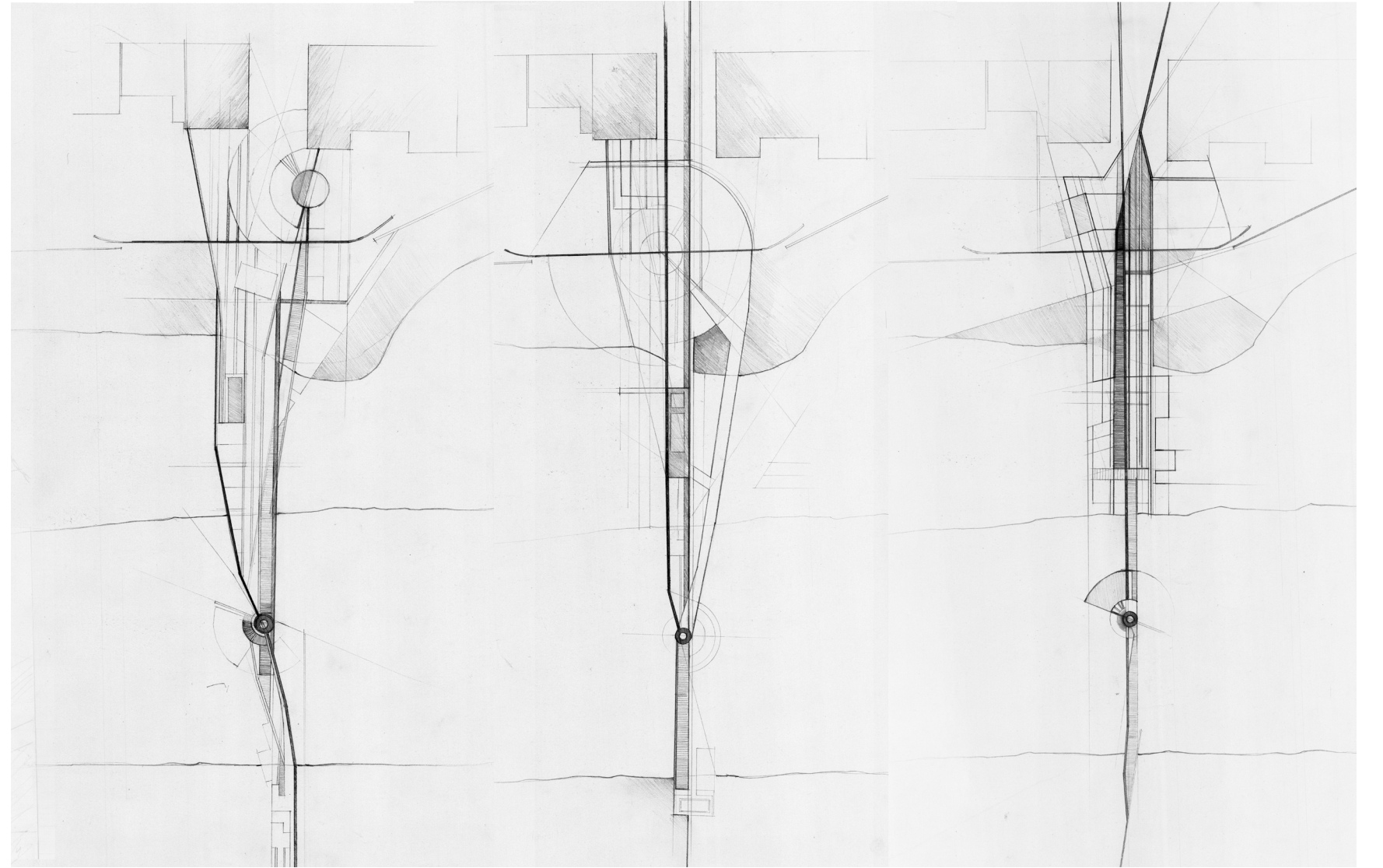
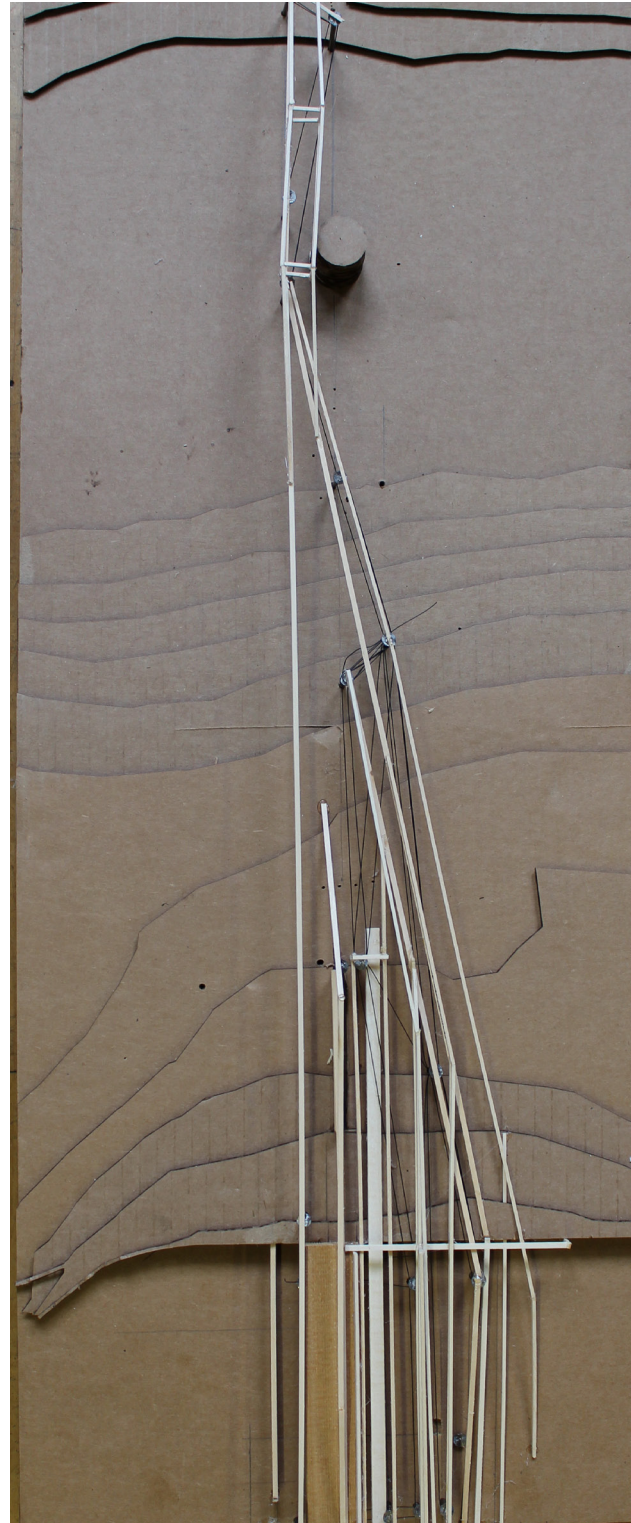
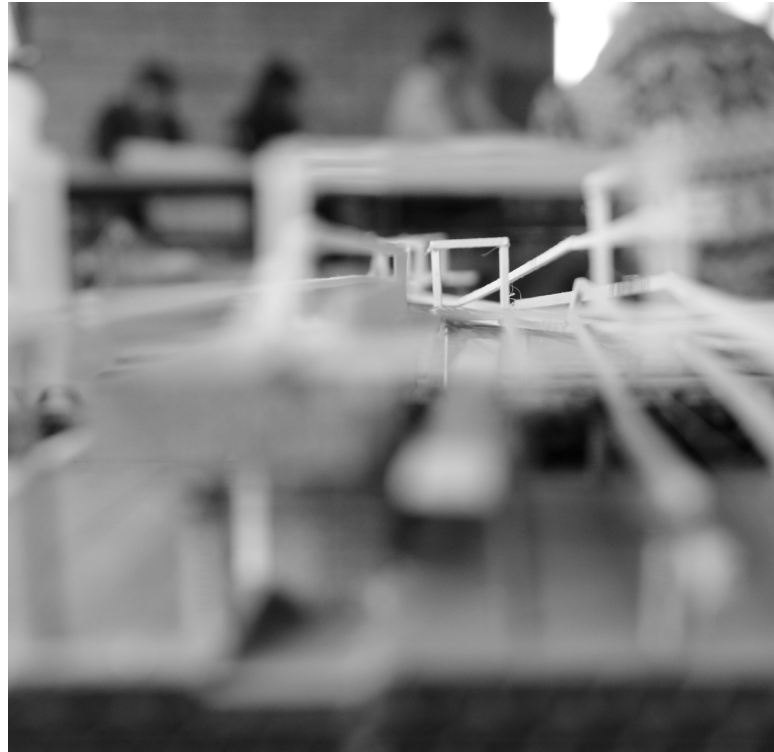


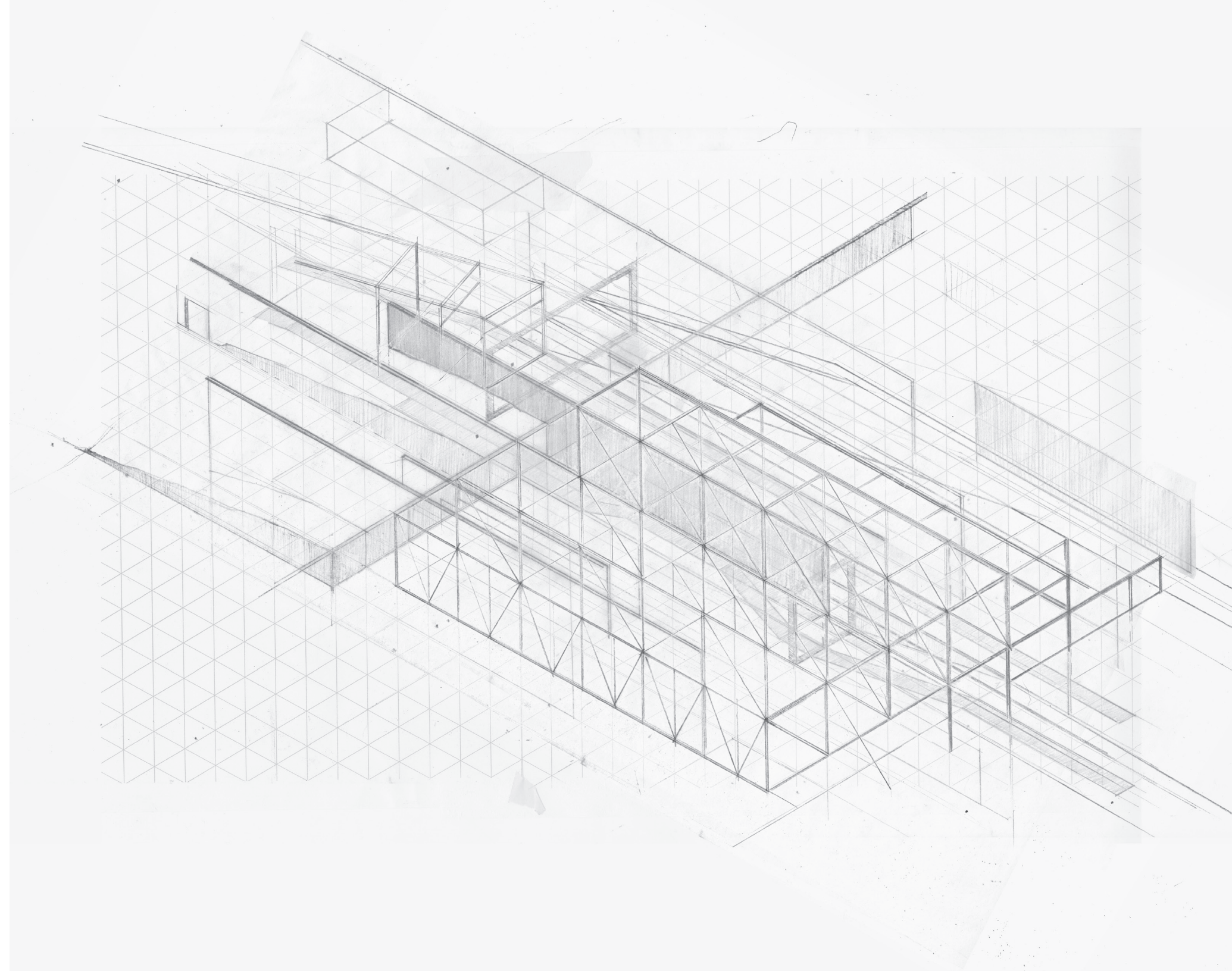
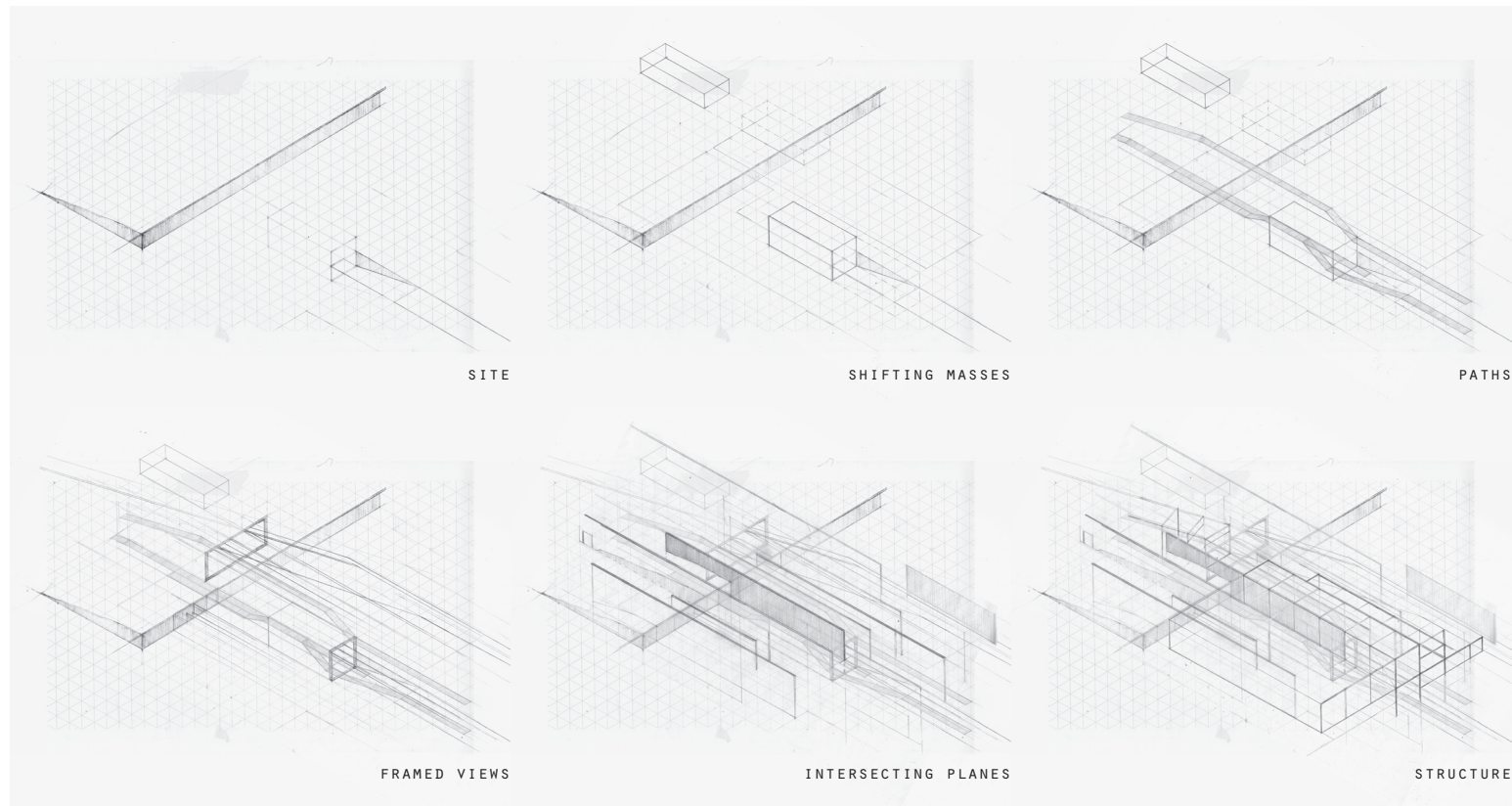
legend

- necessary ●
- optional ●
- unnecessary ○

	entry + lobby	reception + information	administrative offices (4)	exhibition + gallery- permanent	indoor sculpture garden	permanent archive	storage- collection + misc (1)	artifact repair + maintenance	large public gathering	private restroom- indoor (1)	public restroom- indoor (1)	public restroom- outdoor (1)	small private space	circulation space	outdoor sculpture garden	approach + pedestrain bridge (2)	exhibition + gallery- temporary	observation deck	small public space	janitorial space (1)	mechanical rm (2)
entry + lobby	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
reception + information	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(4) administrative offices	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
exhibition + gallery- permanent	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
indoor sculpture garden	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
permanent archive	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(1) storage- collection + misc	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
artifact repair + maintenance	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
large public gathering	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(1) private restroom- indoor	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(1) public restroom- indoor	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(1) public restroom- outdoor	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
small private space	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
circulation space	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
outdoor sculpture garden	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(2) approach + pedestrain bridge	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
exhibition + gallery- temporary	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
observation deck	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
small public space	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(1) janitorial space	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(2) mechanical rm	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

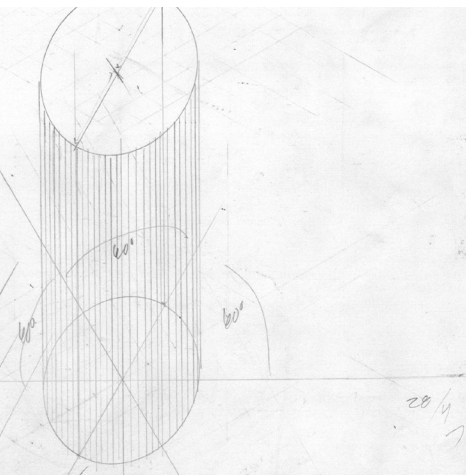
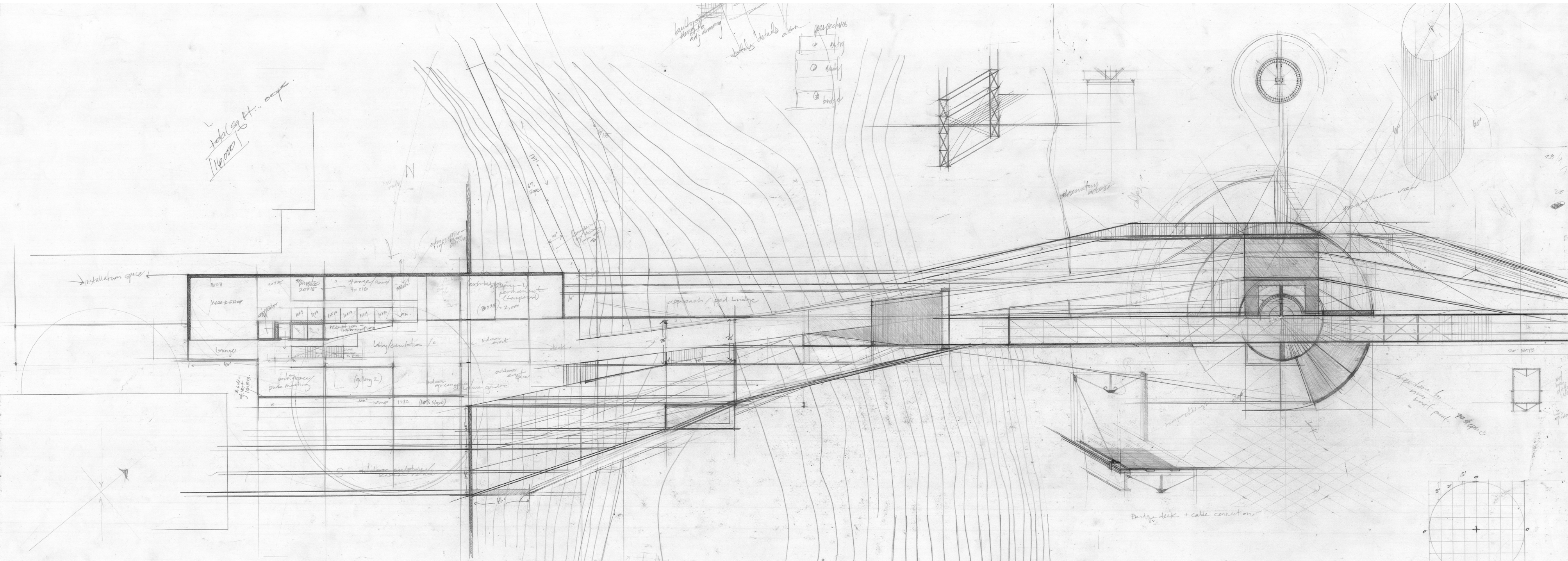
PROCESS



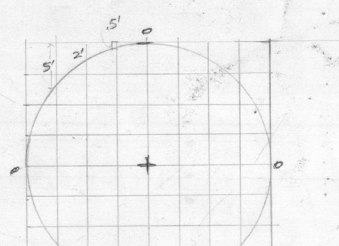


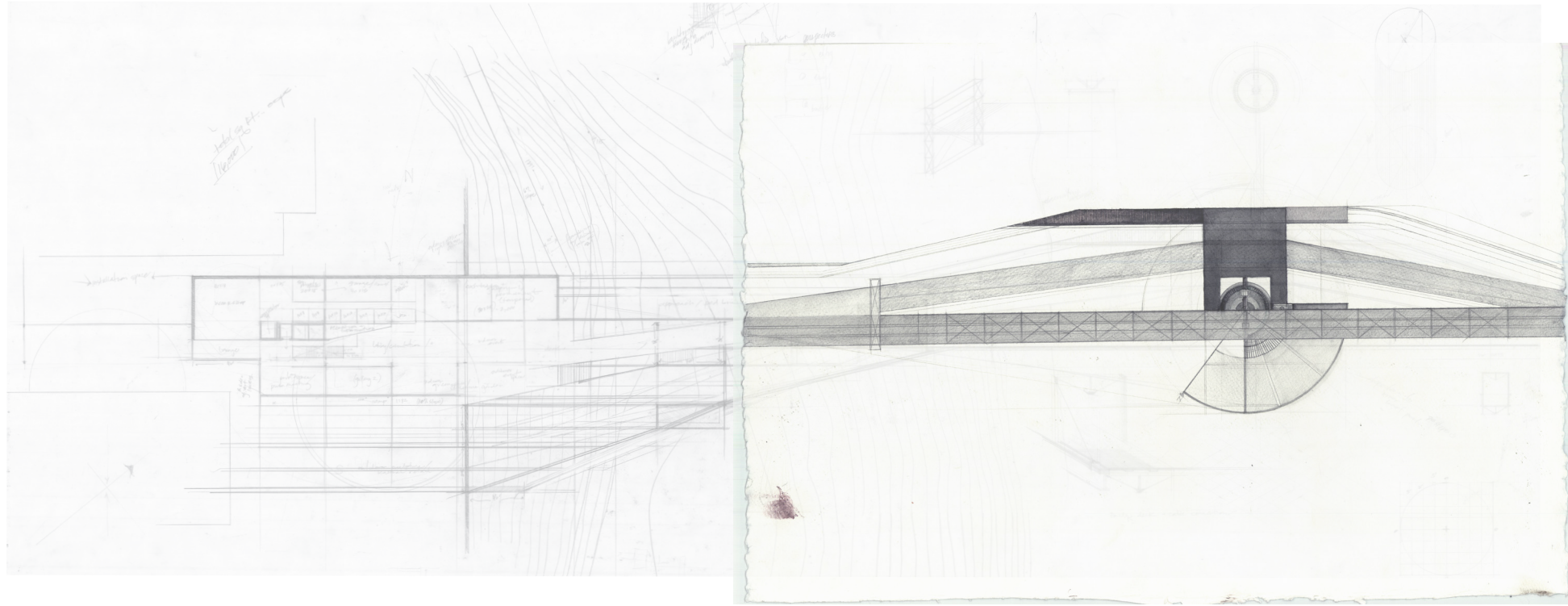
total sq ft... 116,000

details details also perspectives
→ entry
○ study
③ bridge

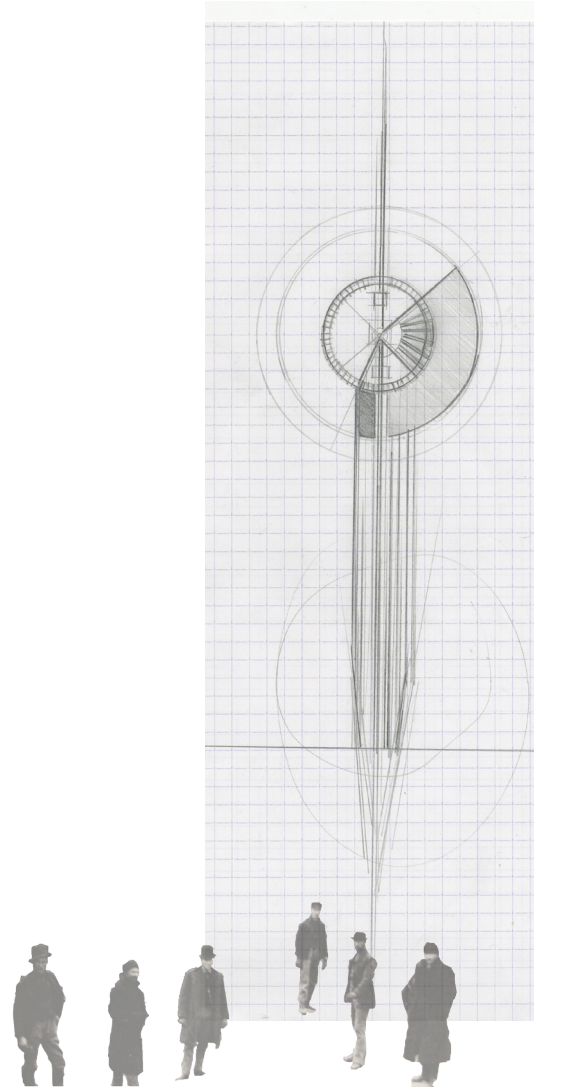
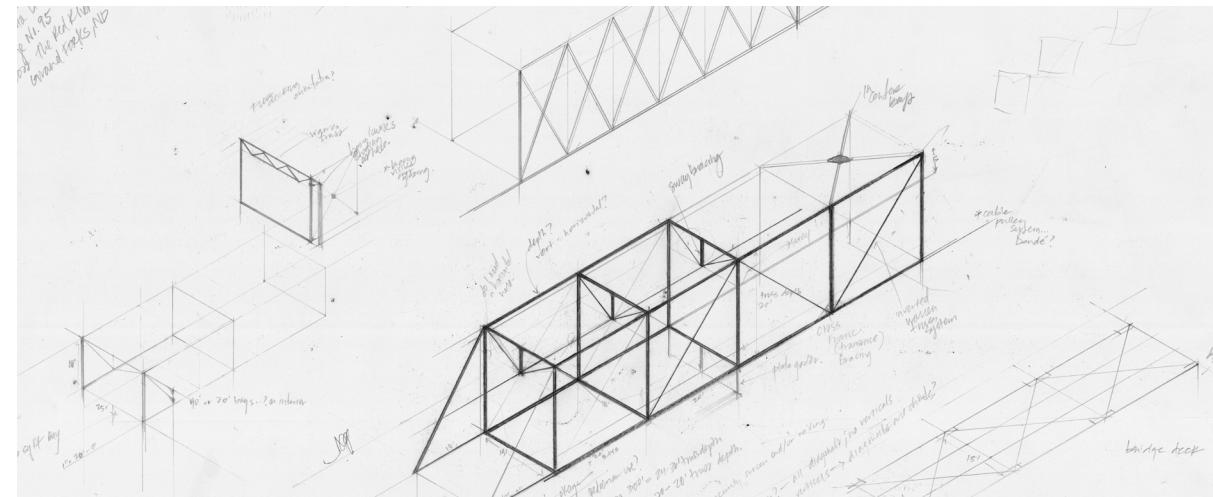
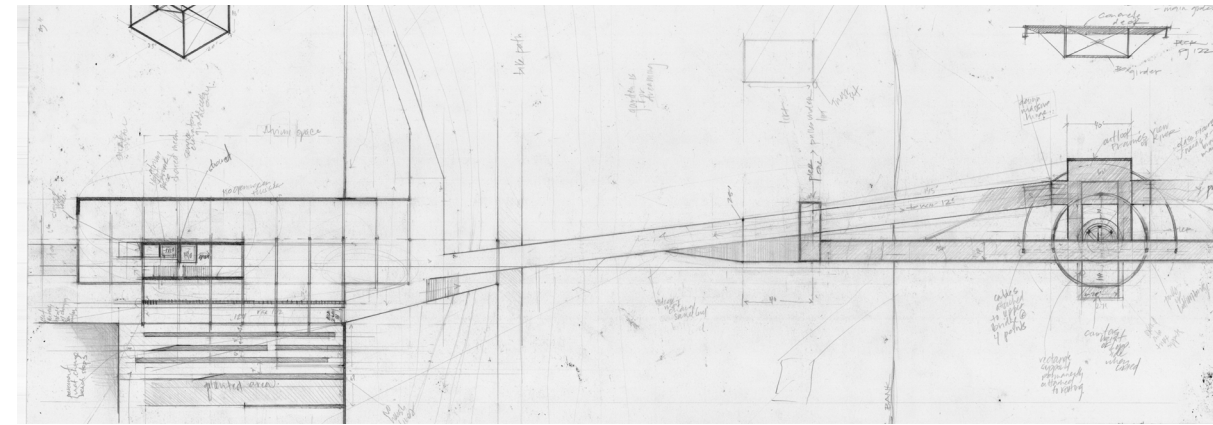
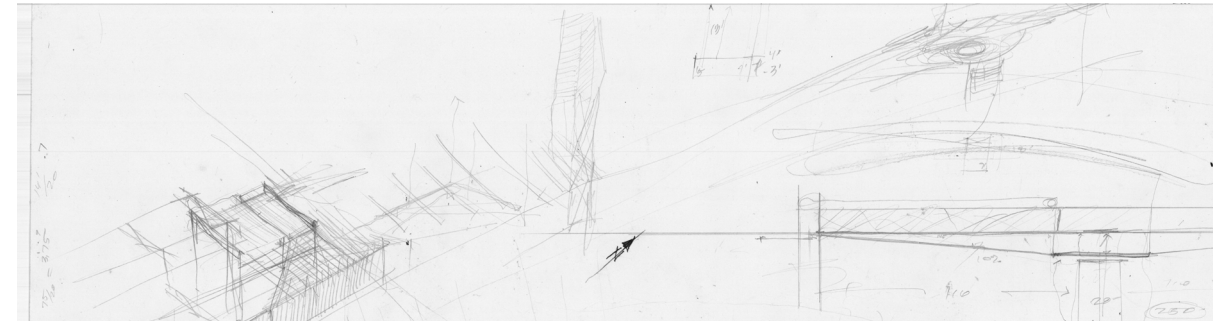


steps have to be built part - rest type C

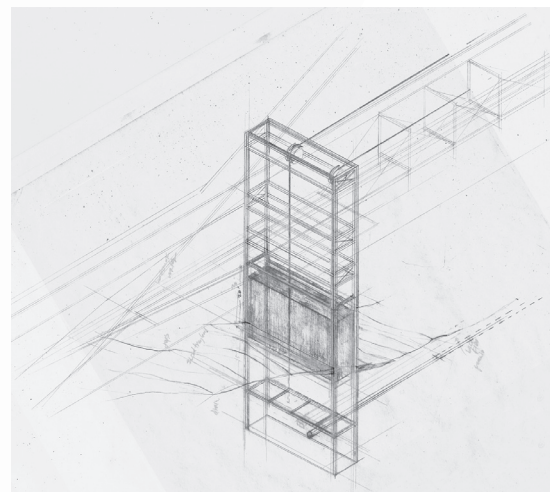
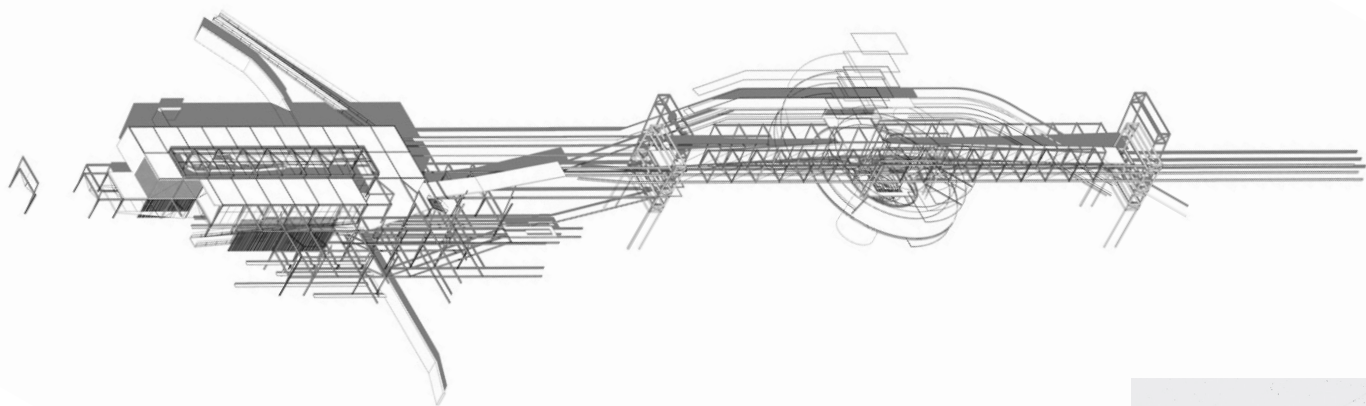
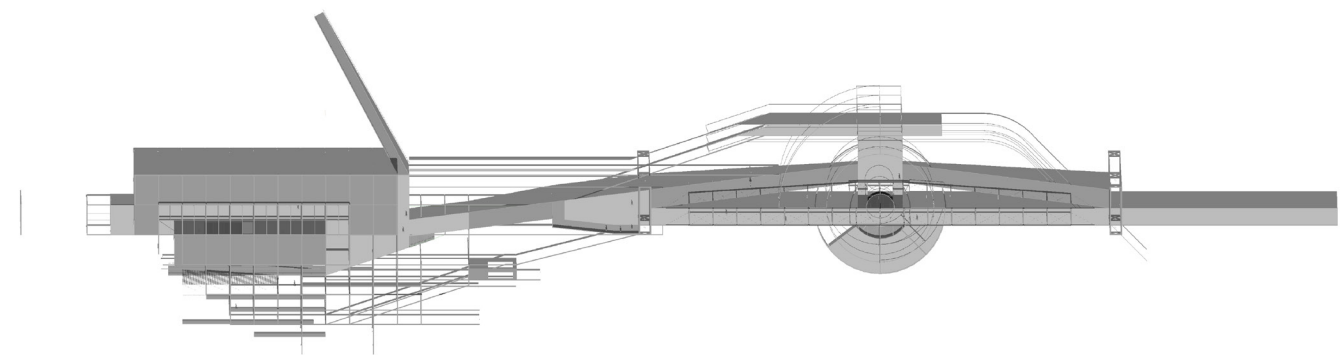




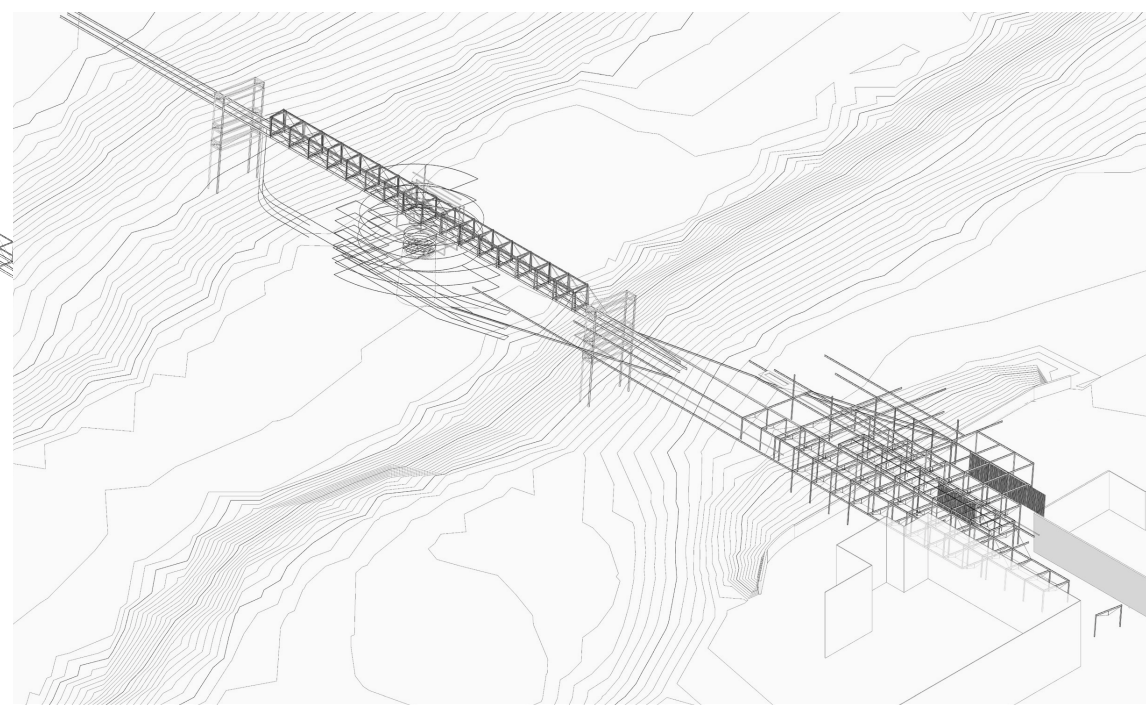
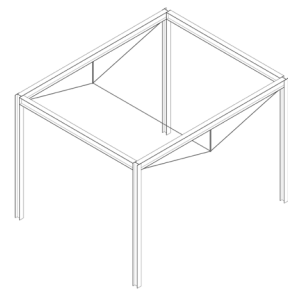
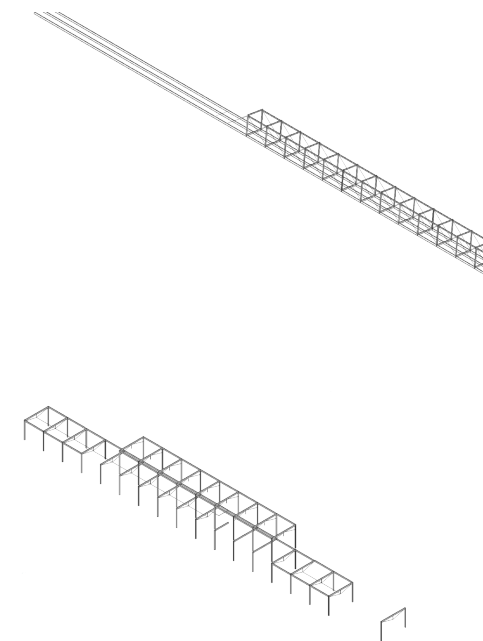
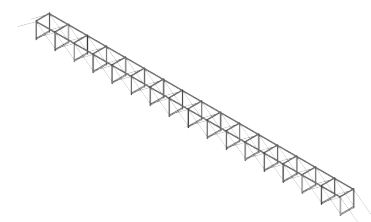
84



85

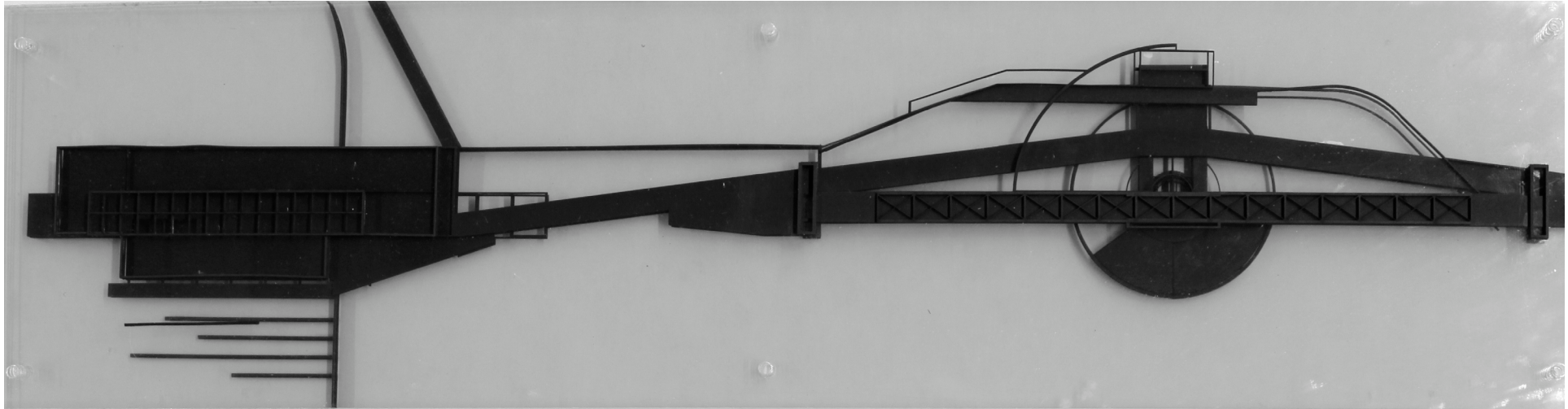
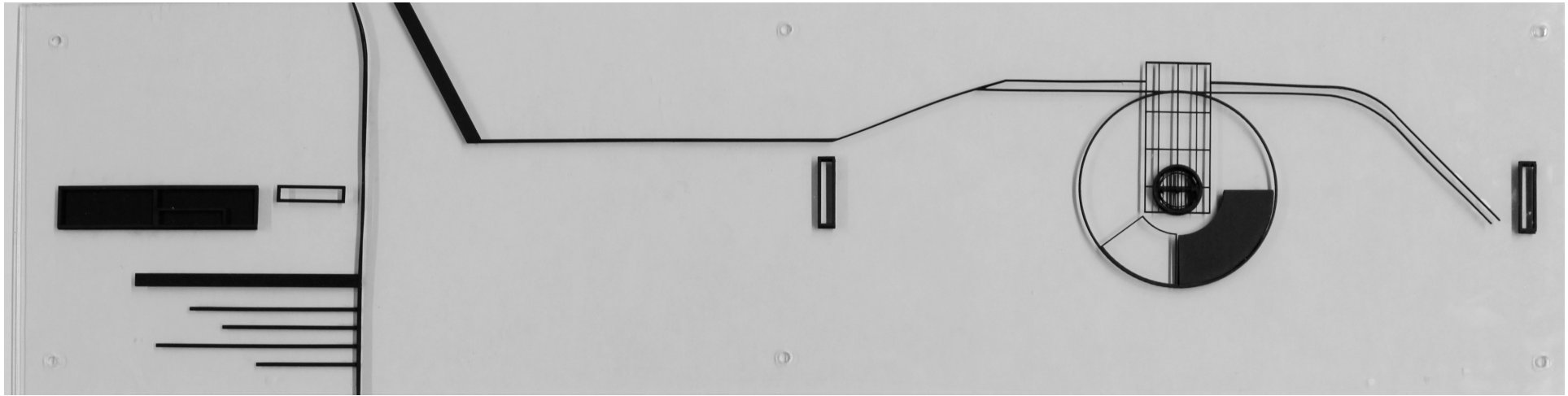


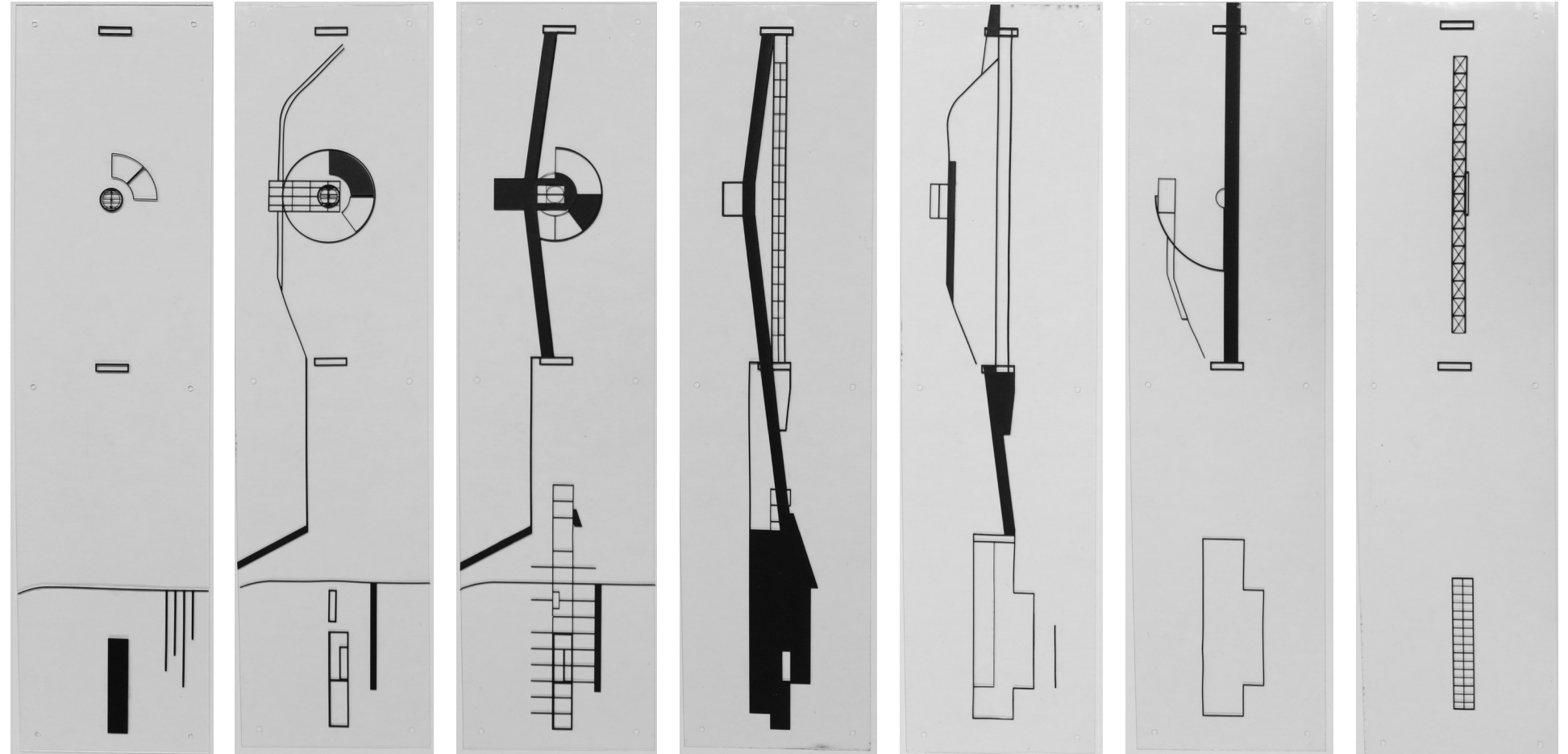
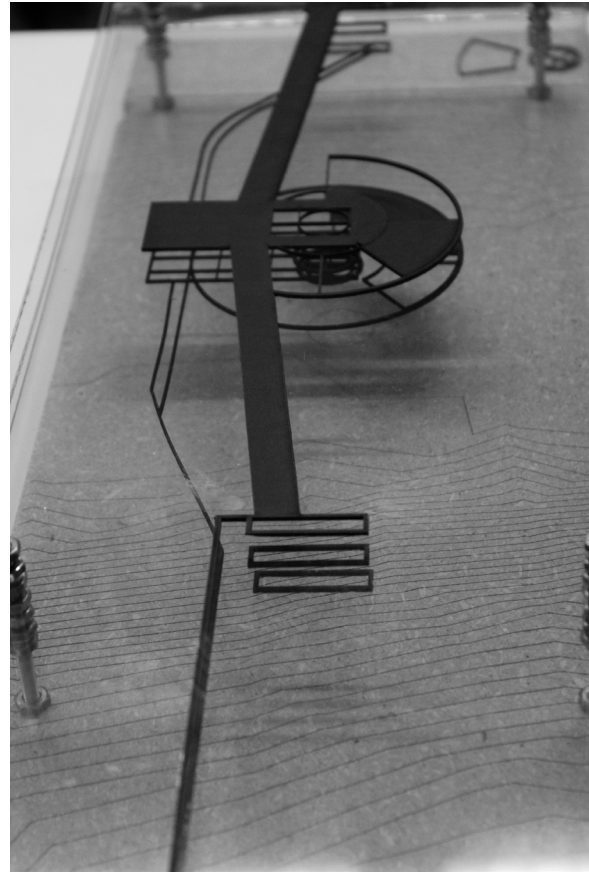
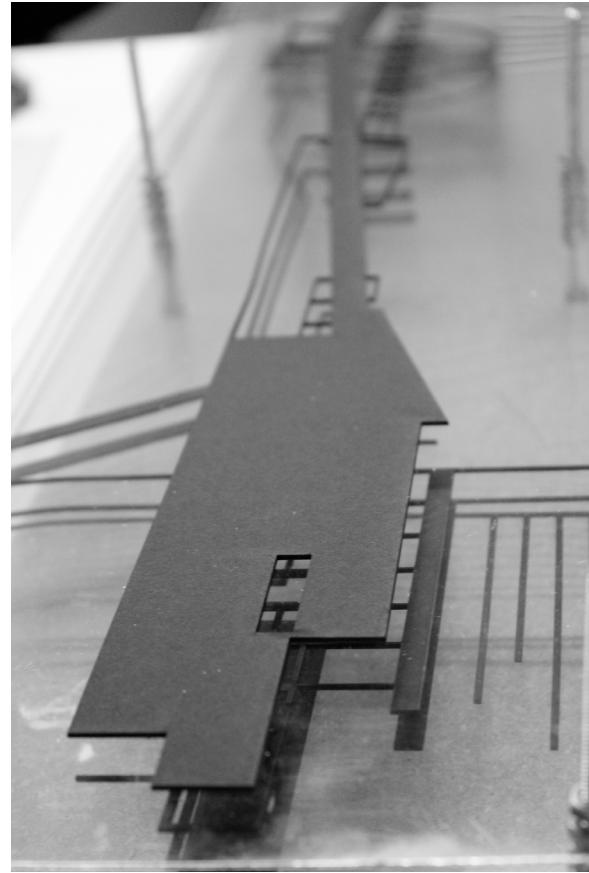
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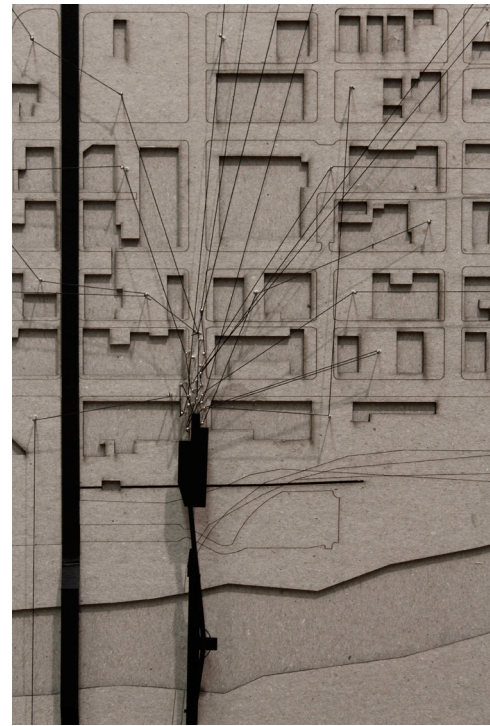
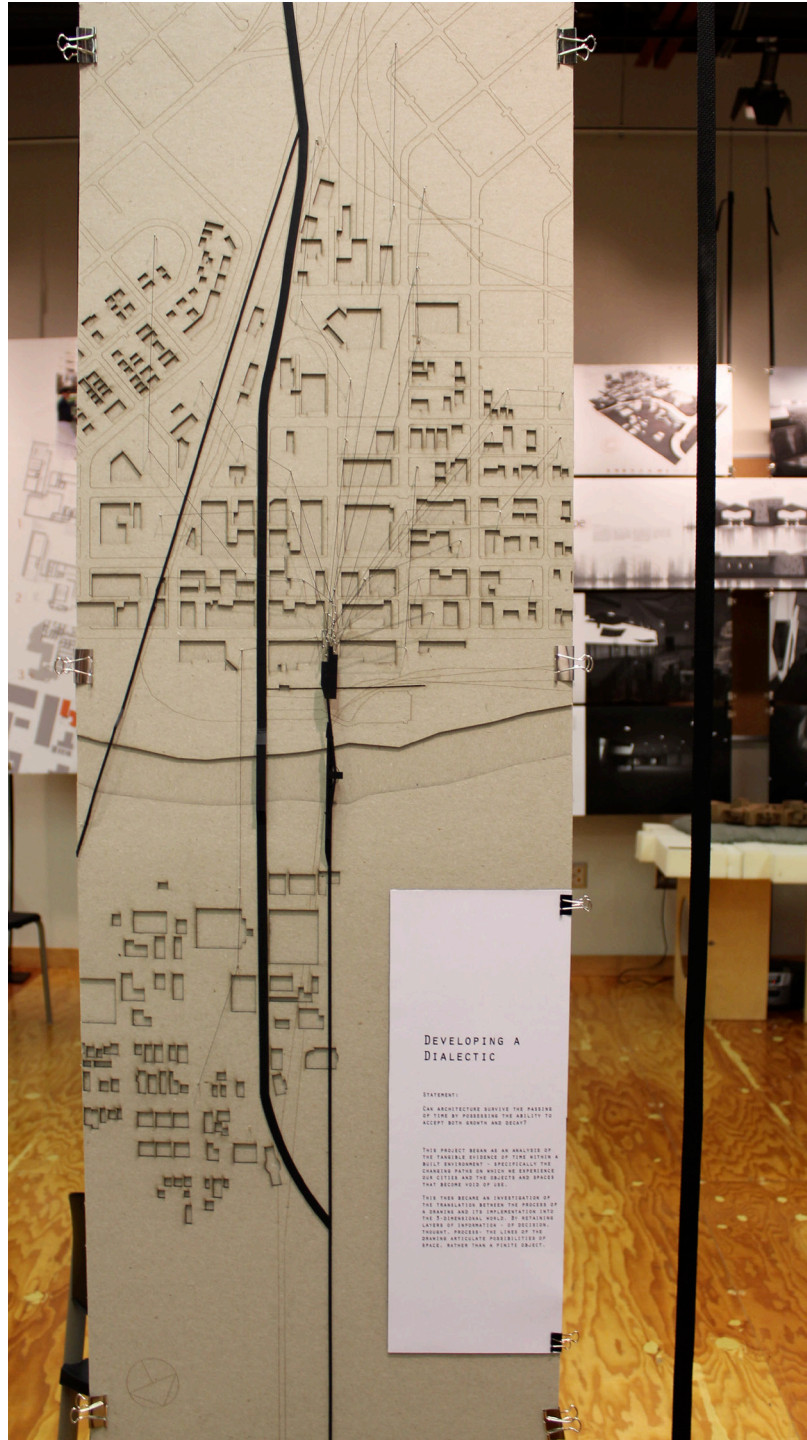


87

**FINAL
MODELS**

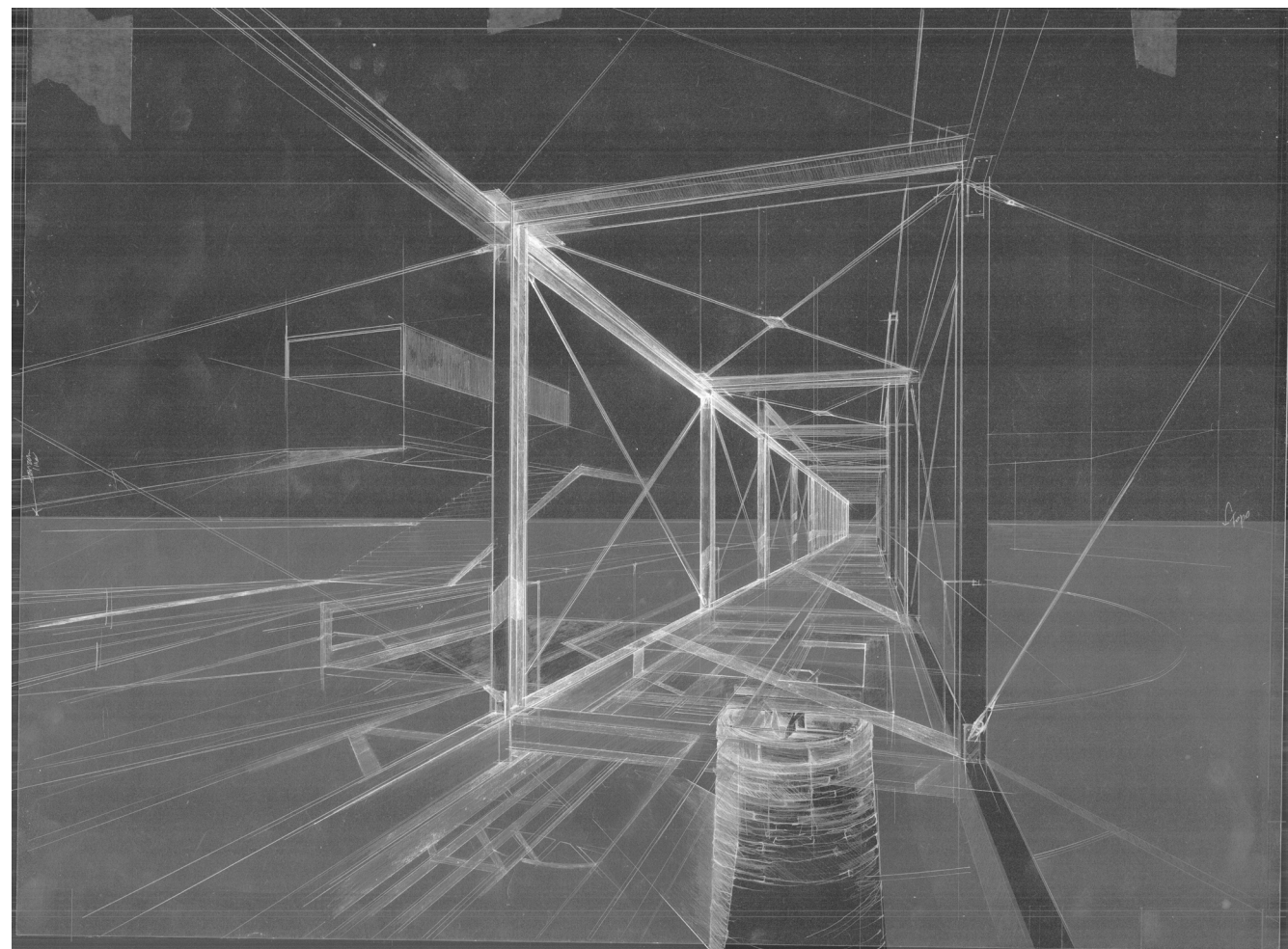






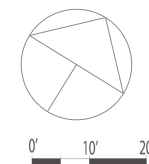
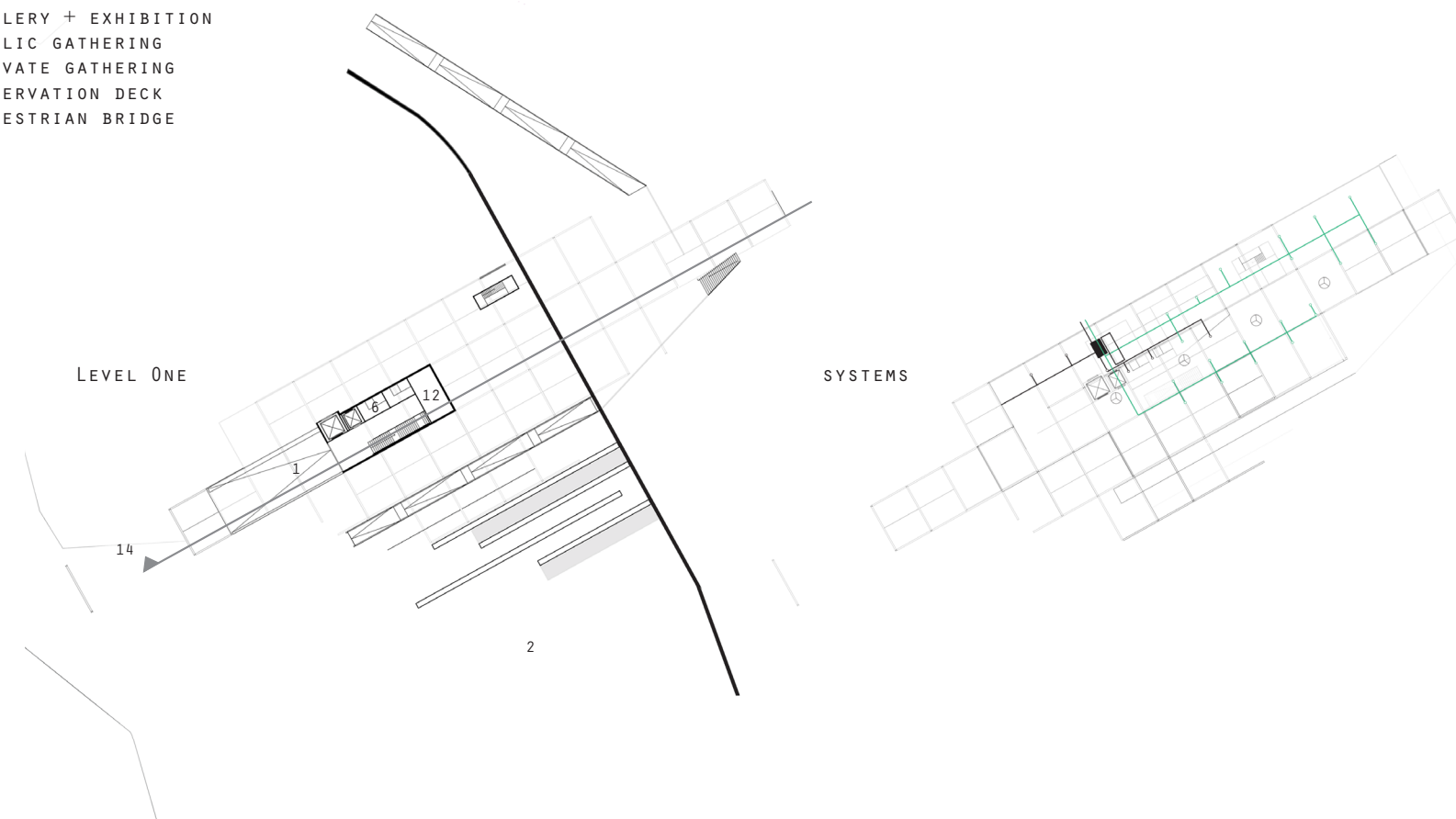
FINAL DRAWINGS





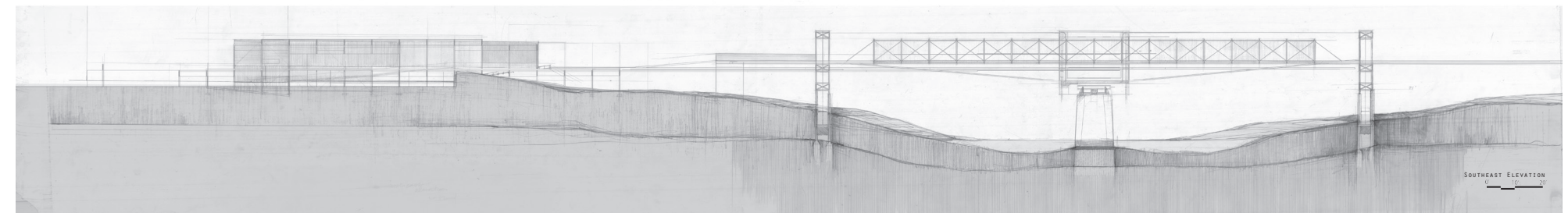
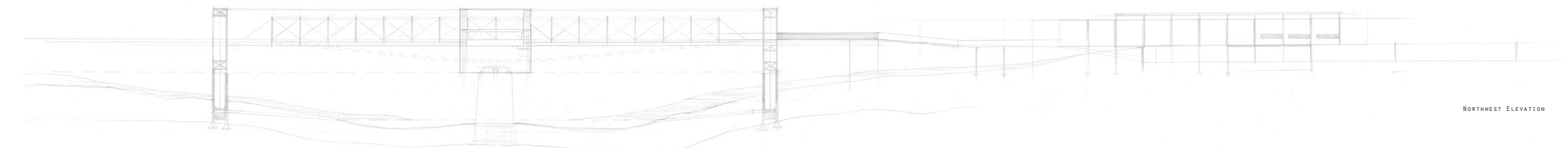
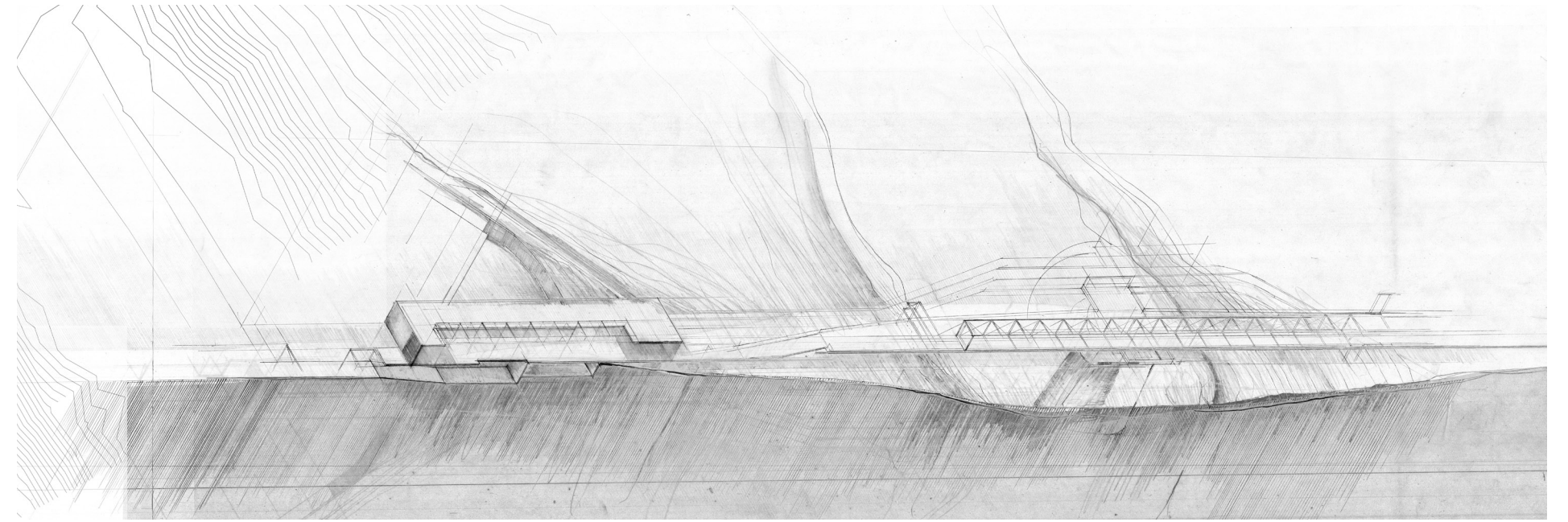
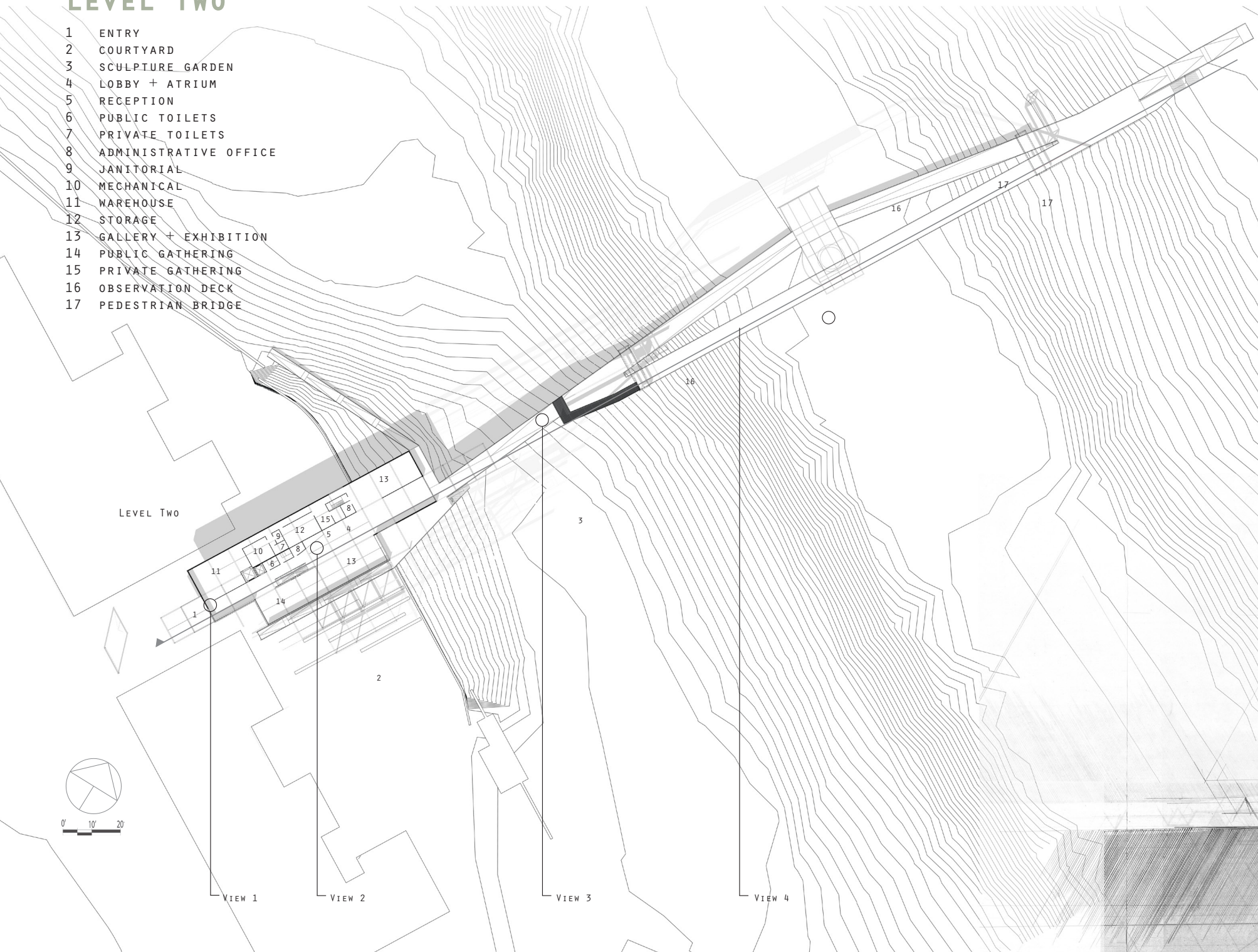
LEVEL ONE

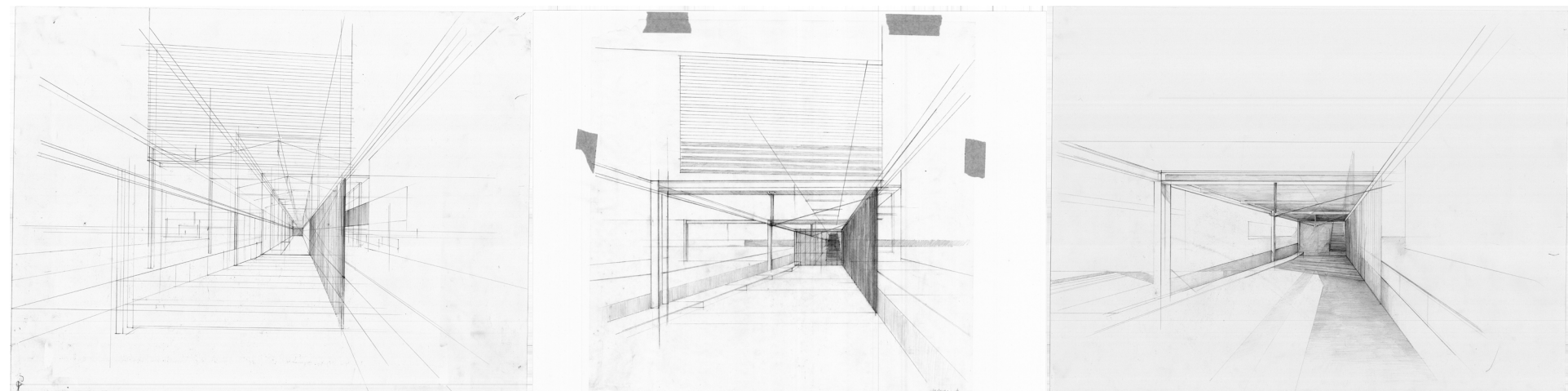
- 1 ENTRY
- 2 COURTYARD
- 3 SCULPTURE GARDEN
- 4 LOBBY + ATRIUM
- 5 RECEPTION
- 6 PUBLIC TOILETS
- 7 PRIVATE TOILETS
- 8 ADMINISTRATIVE OFFICE
- 9 JANITORIAL
- 10 MECHANICAL
- 11 WAREHOUSE
- 12 STORAGE
- 13 GALLERY + EXHIBITION
- 14 PUBLIC GATHERING
- 15 PRIVATE GATHERING
- 16 OBSERVATION DECK
- 17 PEDESTRIAN BRIDGE



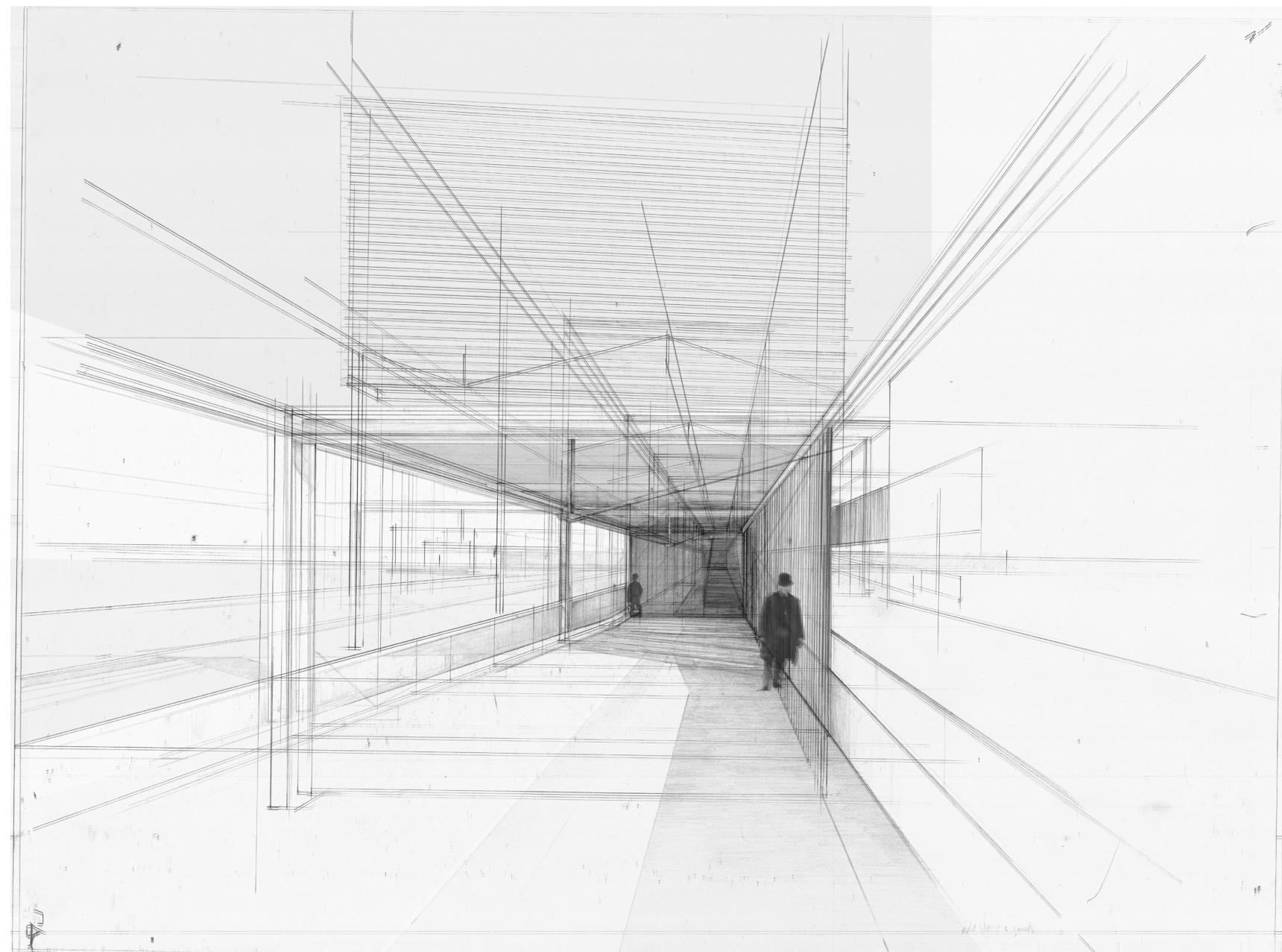
LEVEL TWO

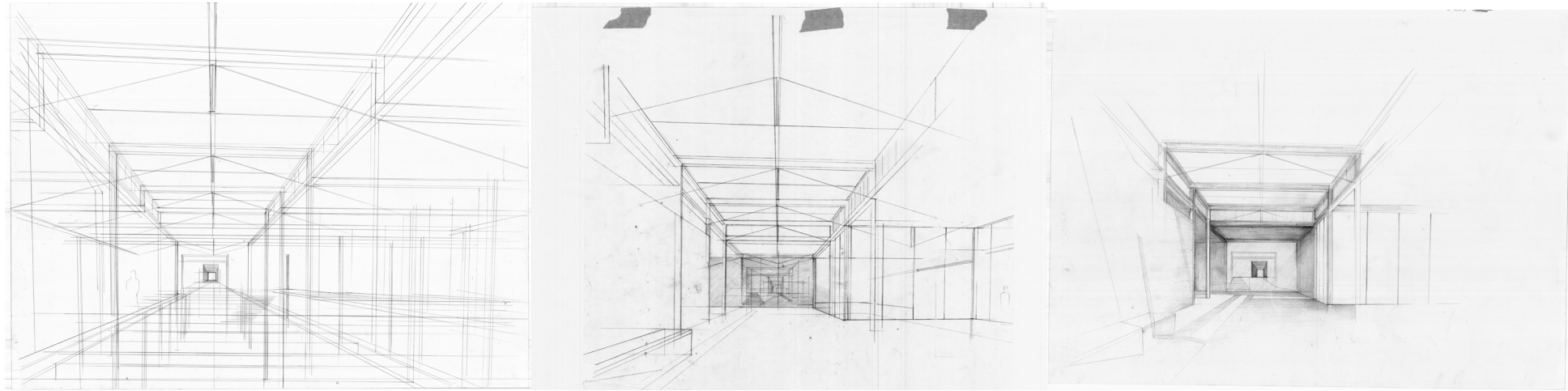
- 1 ENTRY
- 2 COURTYARD
- 3 SCULPTURE GARDEN
- 4 LOBBY + ATRIUM
- 5 RECEPTION
- 6 PUBLIC TOILETS
- 7 PRIVATE TOILETS
- 8 ADMINISTRATIVE OFFICE
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- 10 MECHANICAL
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- 14 PUBLIC GATHERING
- 15 PRIVATE GATHERING
- 16 OBSERVATION DECK
- 17 PEDESTRIAN BRIDGE





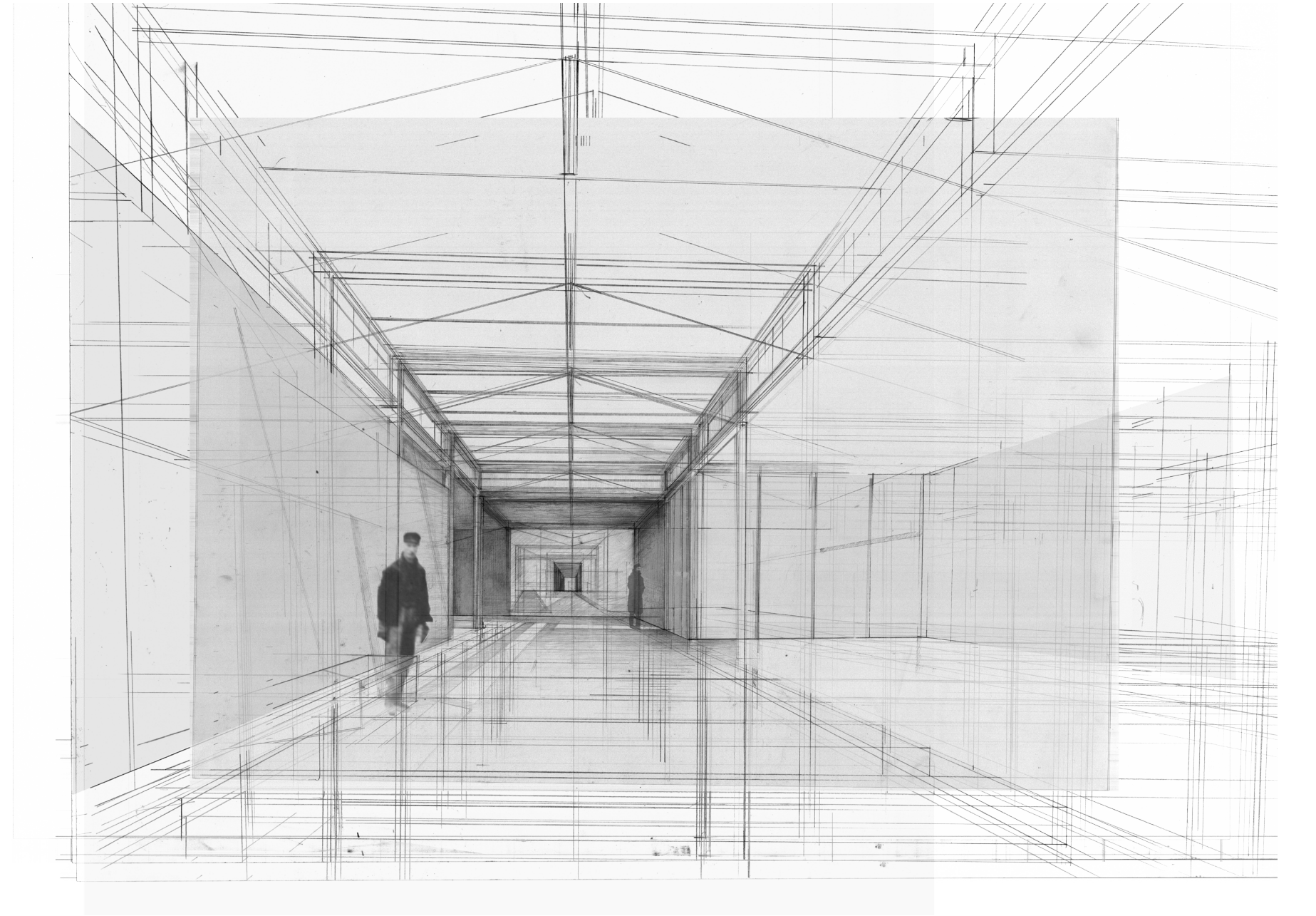
VIEW ONE: ENTRY



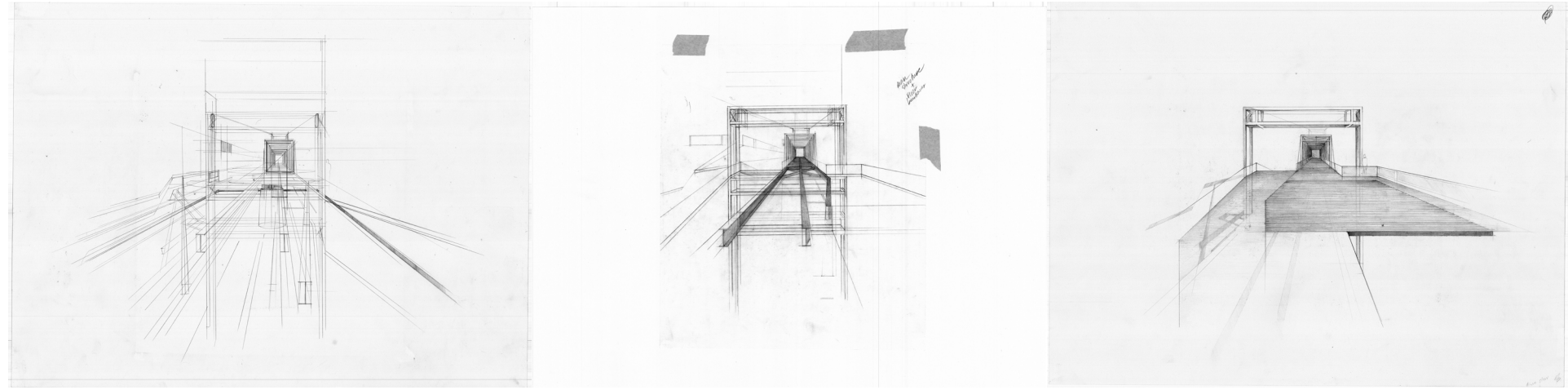


VIEW TWO: LOBBY

100

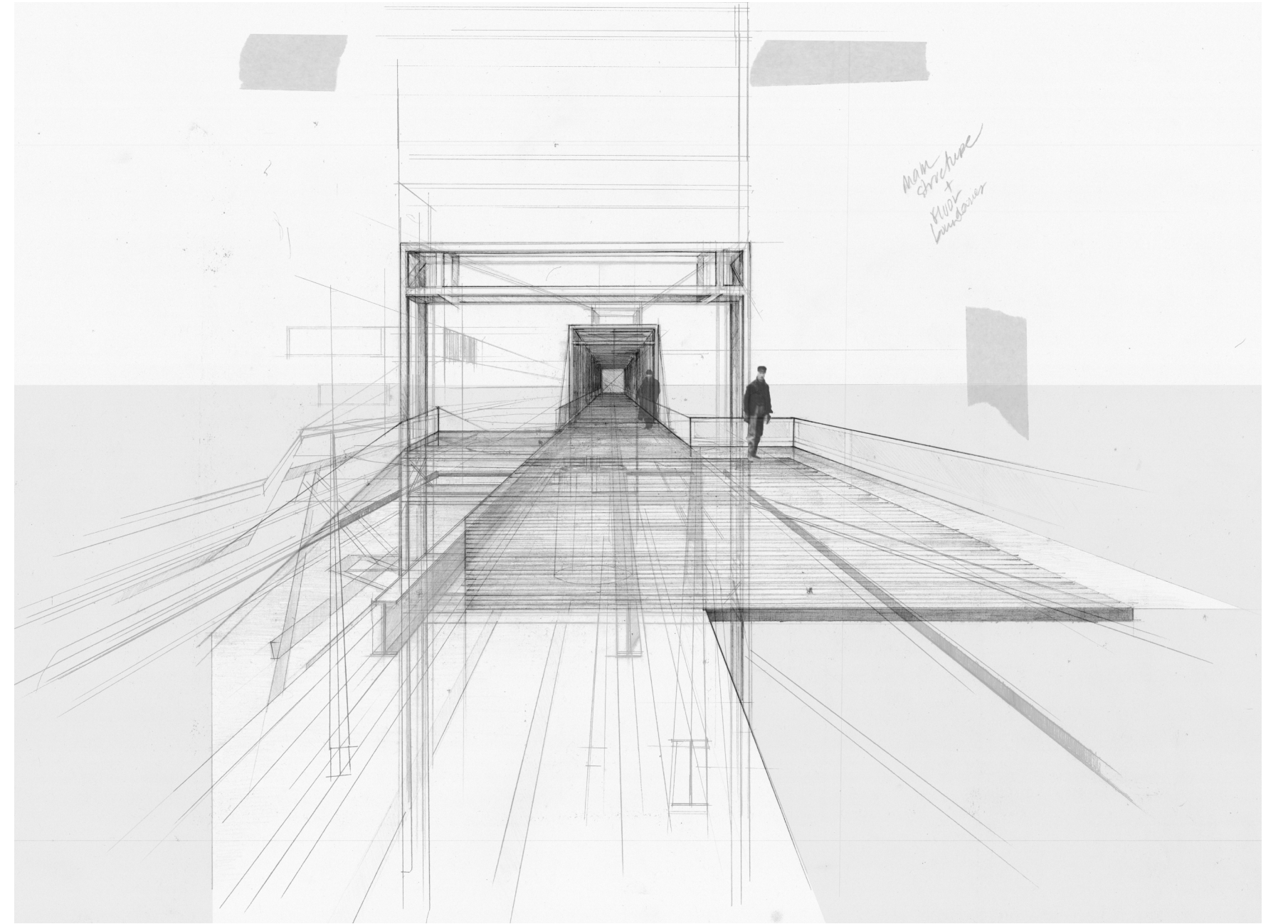


101

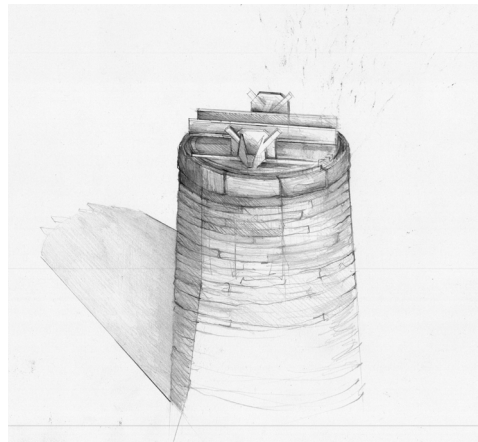
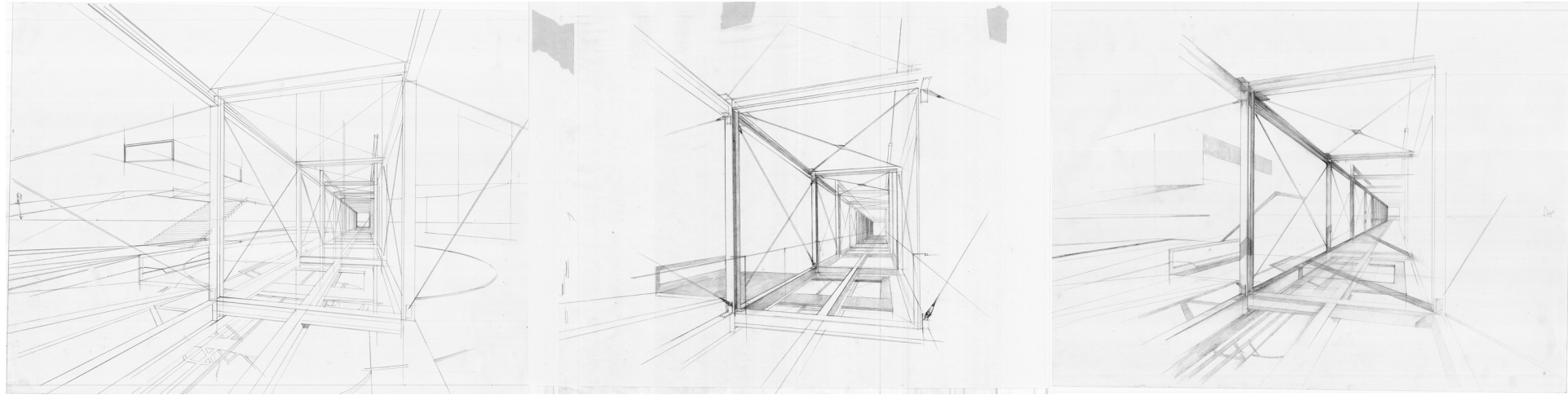


VIEW THREE: DECK

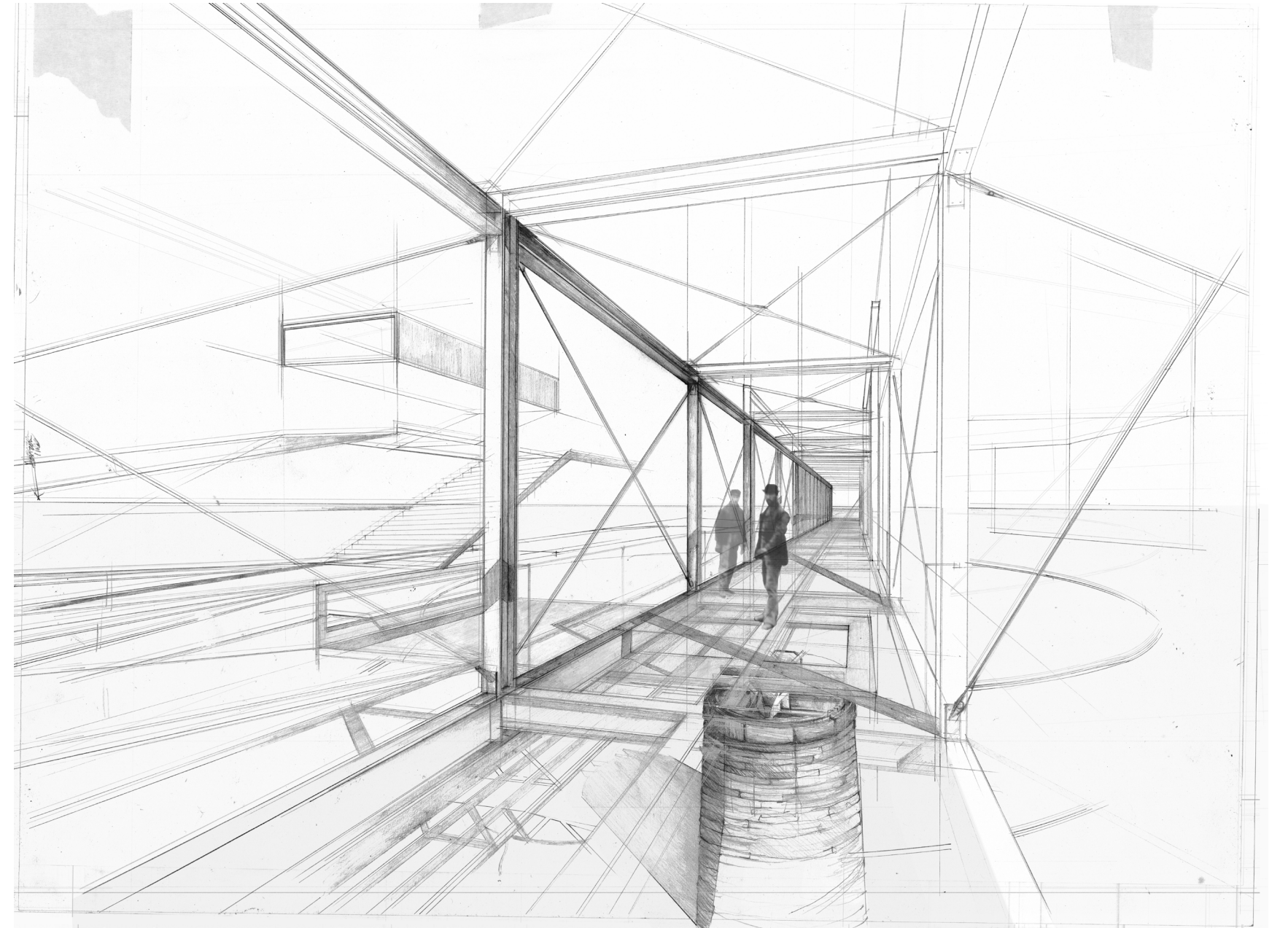
102



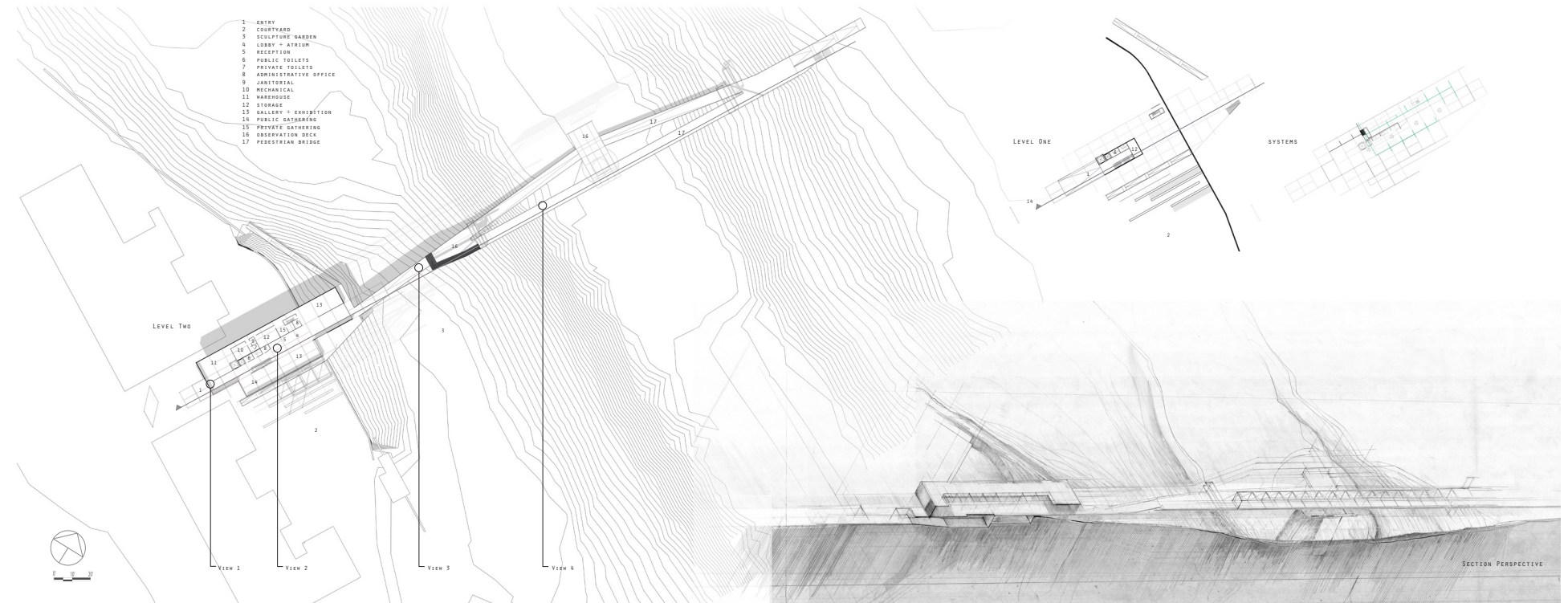
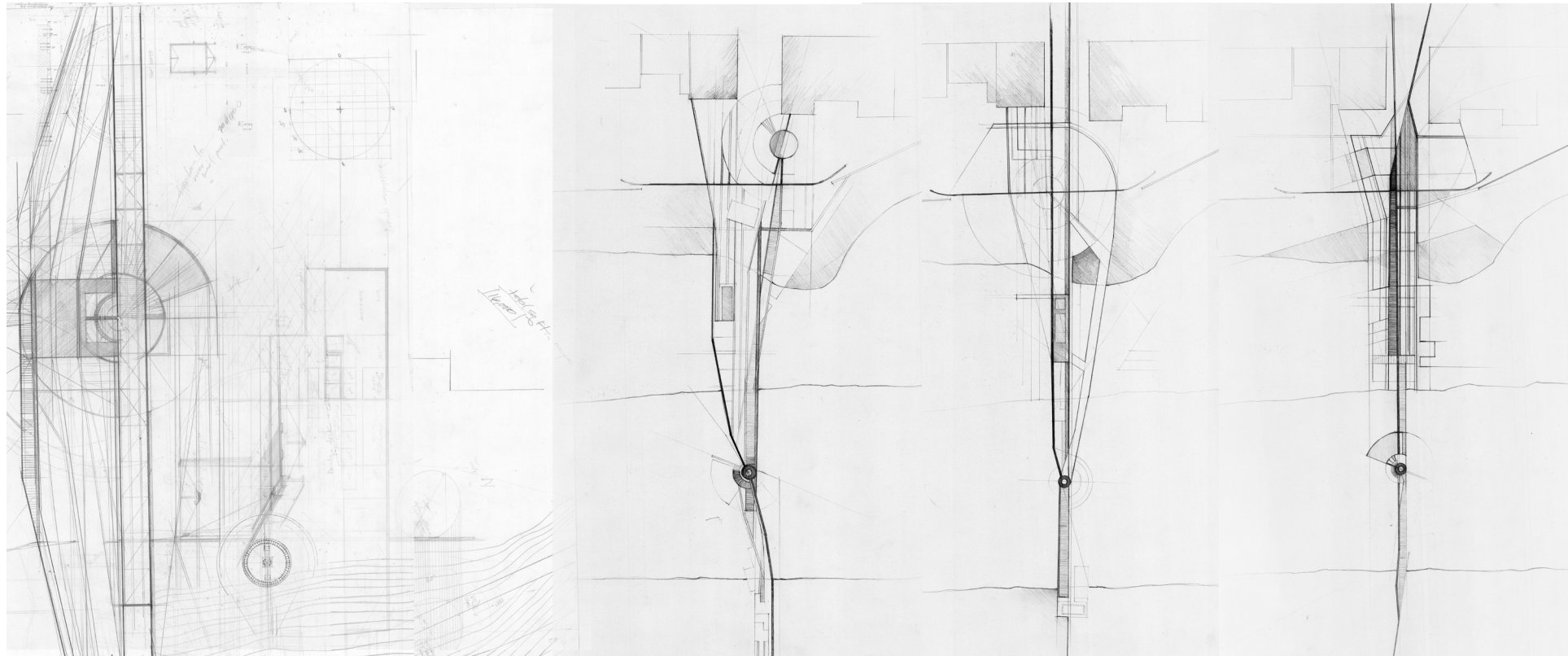
103

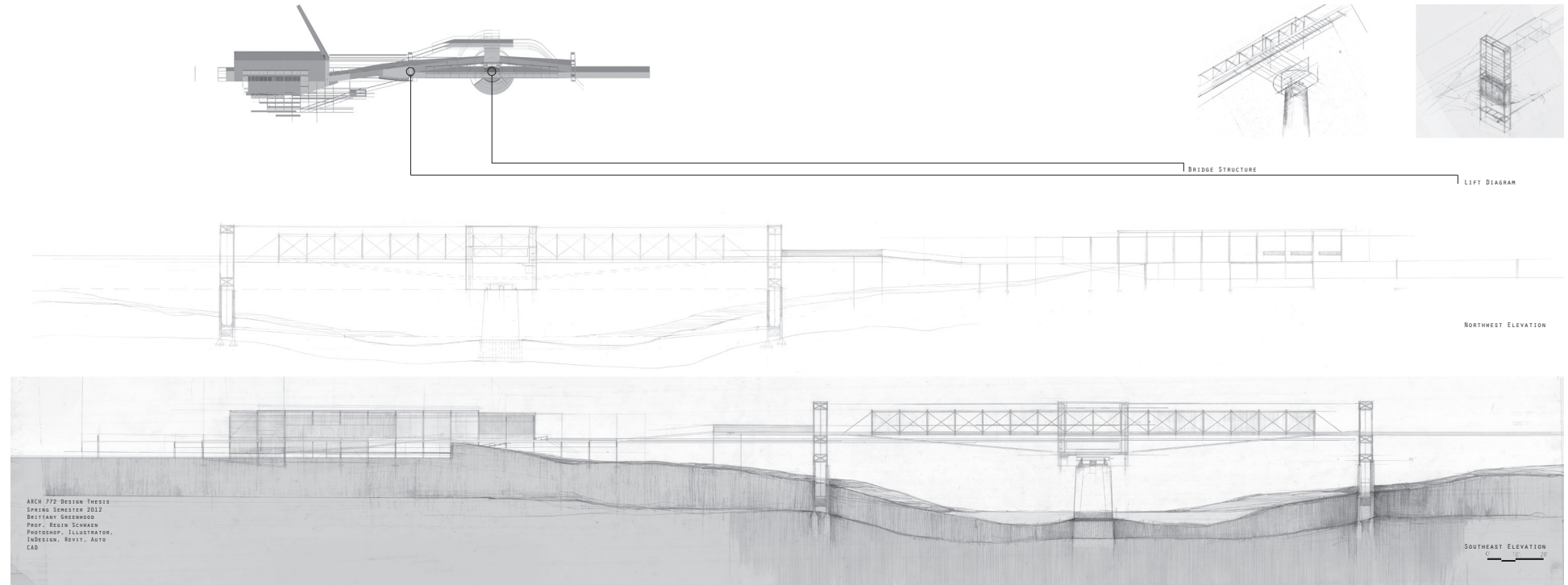
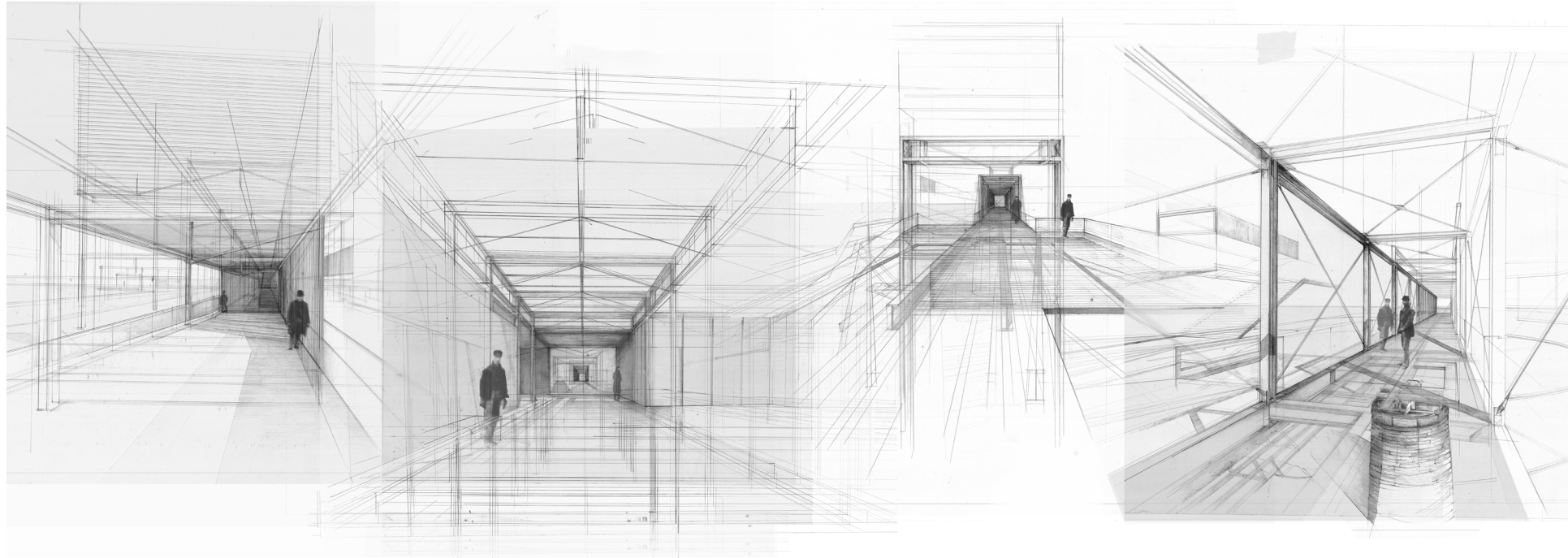


VIEW FOUR: BRIDGE



BOARDS





PREVIOUS STUDIO EXPERIENCE

ARCH 271 FALL, 2008

JOAN VORDERBRUGGEN
TEA HOUSE
BOAT HOUSE

ARCH 271 SPRING, 2009

MEGAN DUDA
DANCE STUDIO
SMALL DWELLING

ARCH 371 FALL, 2009

DAVID CRUTCHFIELD
HISTORICAL FARM MUSEUM
NDSU LIBRARY
FARGO ANALYSIS
SNOW SYMPOSIUM

ARCH 372 SPRING, 2010

SHAKER BARN RENOVATION
CHICAGO ARCH DESIGN FIRM

ARCH 471 FALL, 2010

BAKR MOURAD ALY AHMED
SAN FRANCISCO HIGH-RISE
KKE DESIGN COMPETITION

ARCH 472 SPRING, 2011

MALINI SRIVASTAVA
PASSIVE HOUSE DESIGN-BUILD

ARCH771 FALL, 2011

MALINI SRIVASTAVA
PASSIVE HOUSE DESIGN-BUILD
BOOK PUBLICATION

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