

JAKE LEFEBER

SELECTED WORKS

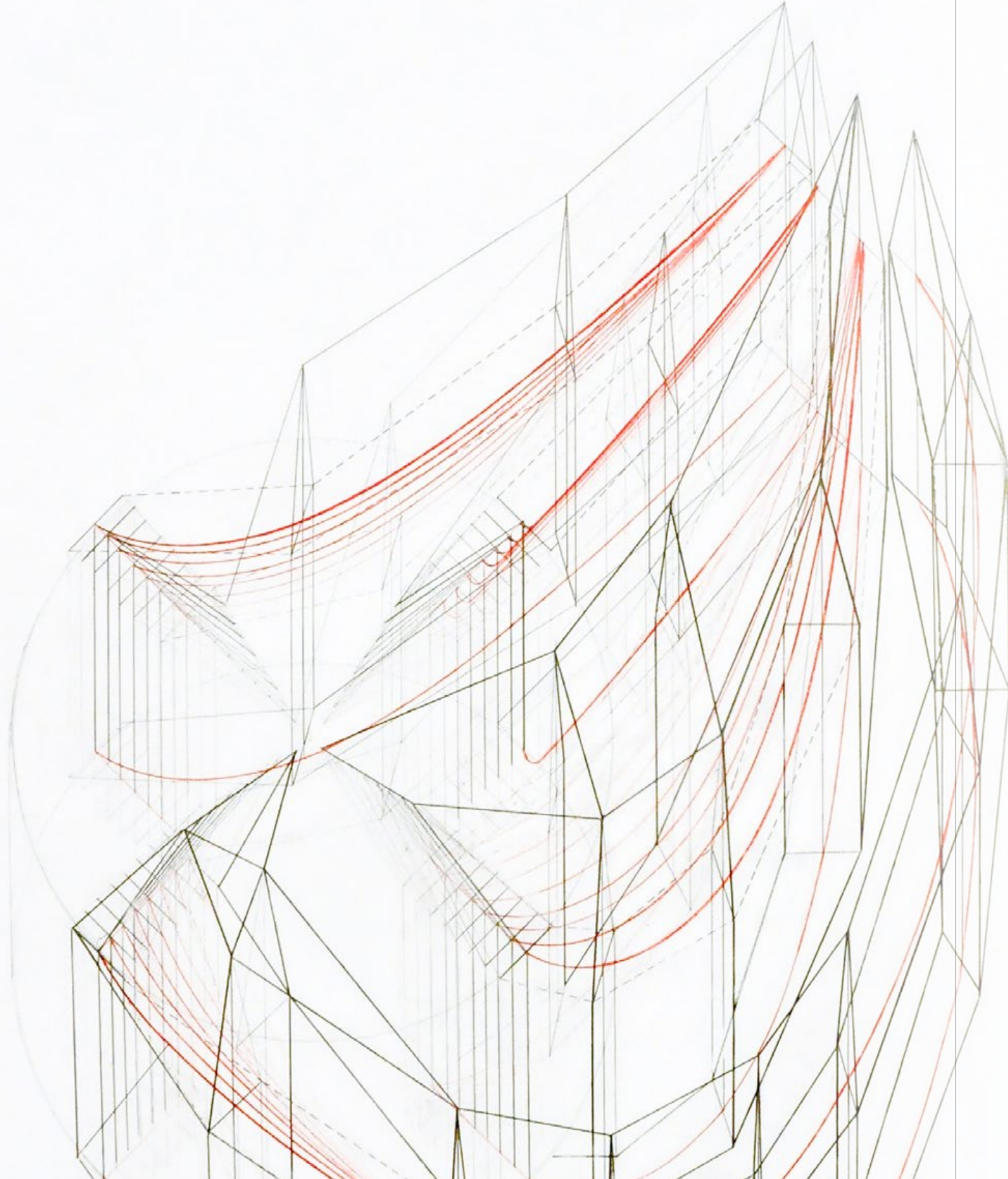


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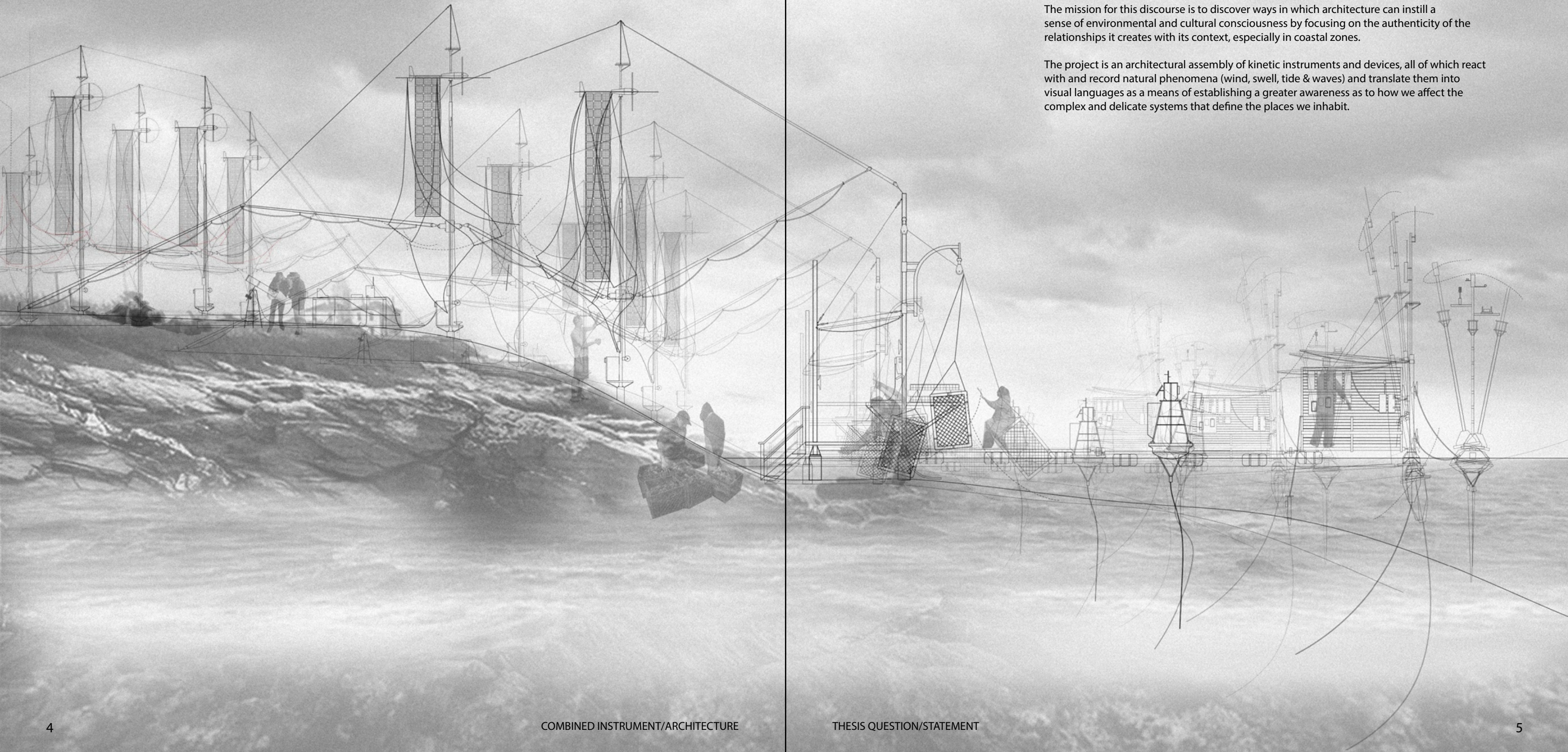
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What is the role which architecture has in interpreting and understanding natural systems as a means of understanding our own bodily presence?

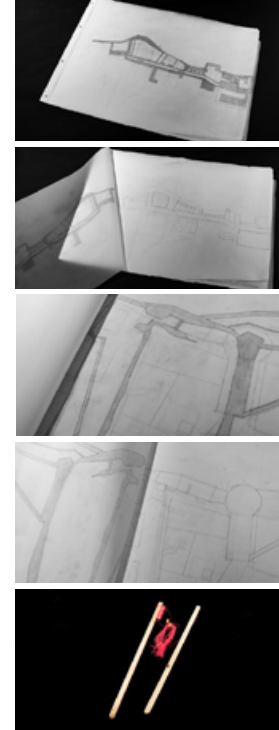
To understand the formation of a wave one must consider the scale of the moon's gravity, the resulting tides, the global systems responsible for local wind trends. A wave is born far offshore as a swell. The actual wave occurs at a moment of energy transfer; the swell's energy must continue on, and a wave is the threshold of this process. A wave is a moment in the collision of earthly and cosmic forces that we can physically and emotionally experience.

The mission for this discourse is to discover ways in which architecture can instill a sense of environmental and cultural consciousness by focusing on the authenticity of the relationships it creates with its context, especially in coastal zones.

The project is an architectural assembly of kinetic instruments and devices, all of which react with and record natural phenomena (wind, swell, tide & waves) and translate them into visual languages as a means of establishing a greater awareness as to how we affect the complex and delicate systems that define the places we inhabit.



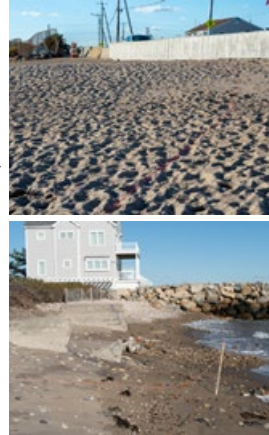
OBJECT



ON: SITE
Site can easily be associated with the idea of "where am I allowed to build" However, by submitting to this approach and abiding by pre-established boundaries, the architect is effectively reinforcing the inequities which such a system holds. Architecture in this sense is the embodiment of bylaw - and so in order to create new conditions which subvert the bias embedded within this function, the bounds of 'conventional site' must be reconsidered. Elements such as plot, property lines, or zoning, cannot take precedent in a process of deconstruction since they inherently contradict it. Site also does not necessarily need complex or dynamic local conditions in order to facilitate architecture. Although such aspects can help in determining the programmatic strategies, site can also exist at something which interacts with but simultaneously transcends its own locality. An isolated site located in the middle of a vast grassland might have the same weight as a site in the heart of a dense city, not due to the adjacencies between site and architecture, but because of the larger context, and the meaning behind the insertion of architecture into a particular place.

Architecture is conflict by nature - it creates boundaries, hierarchies, and so site is critical because it becomes the location of such conflict. This definition is not to implicate that conflict is undesirable, but rather to assert that if architecture is to pose as a means of addressing the existing instabilities of a place, it must conflict them. Therefore, site cannot just be considered a passive token in the design process. It needs to be controversial; explicitly disobey the constraints that dictate the rigid organization of place. Site should be used as a way to confront or challenge the dynamics of place, and assert a new mode of thinking regarding the relationships between building, location, and inhabitants. The site for the thesis should therefore not gravitate towards as little resistance as possible, but rather search for tension, and address the repercussions of architectures which inhabit or have previously occupied a place.

OBJECT INVESTIGATIONS / PROBES



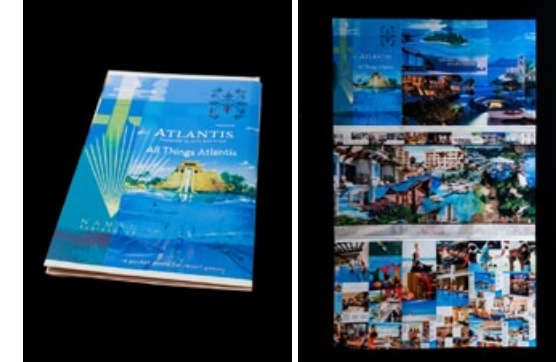
Coastal regions are heavily contested spaces. Property lines, land ownership, and access to the water create charged boundaries which are difficult to navigate. With these boundaries comes a prescribed usage of such spaces, but despite the formal boundaries present on these coastal regions, there always a form of misuse which occurs between these boundaries.

Also part of this exploration is the implementation of the stakes, which is a common way for marking property. Although a simple object, it maintains the authority to subdivide land and thus configure means of access. Here, the stakes have been used to define one of the deconstructed boundaries in the map of Matunuck, not strictly as a means of claiming, but rather as a physical resolution of the mapping process which announces a right to inhabit these spaces.

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PRESERVING CONNECTION

OBJECT



Images from existing resort brochures, some located on opposite sides of the world from each other, have been collaged to create a 'mutated' brochure. All images seem to be pitching the same highly polished experience, and so when they are conglomerated a hyper-visual texture of sameness is formed. Amenity after amenity and luxury after luxury are reduced to a distinct character into a series of simple, highly curated images, which cater to a non-local audience. The resulting larger image becomes a grotesque misrepresentation of a place's authenticity.

The typical brochure is meant to be small and discrete. Often they exist in a pile or assortment of other brochures that occupy a counter top or an entire wall. These images create an overwhelming array of options. However when one is taken, it can be slashed away to be thought about later. The scale of the typical brochure allows the reader to avoid the instabilities which have been created as a result of such false perceptions. They can be forgotten, discarded with ease.



HOMOGENOUS COAST

ON: PROGRAM

Regardless of what type of program is coupled with an architectural form, there is always the likely possibility of the misuse, or total revolt against the intended space. Thus singular program is perhaps something which cannot be relied upon as an anchor point in the process of creating new architectures. Hybridization becomes paramount in the formation of 'Radical architecture', which actively embraces the spatial instabilities caused through inhabitation. It is more appropriate to design around programmatic relationships and the anticipation of unpredictable events, as opposed to creating spatial strategies then applying program. By engaging in unprecedented programmatic dialogues, the subsequent spaces gain the capacity to address these new relationships in equally new ways. Programmatic hybridization must intersect with a cycle of reactive spatial strategies in order to form 'radical architectures'.

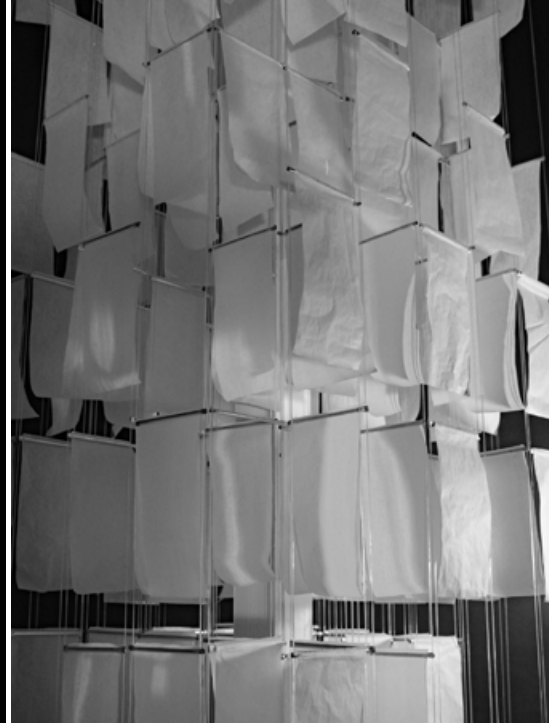
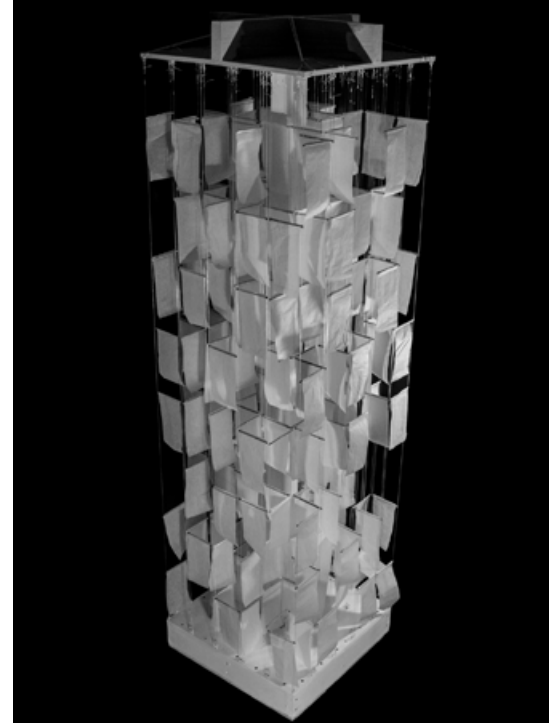
Program also acts as a declaration as to what the architecture serves. Conversely, program comes with preconceptions, and by labeling a built form with a specific function, architecture is destined to be static. Program cannot exist in an insular state - this is detrimental to both the architecture and its context. Especially in the case of the thesis, the program must allow for human and nonhuman phenomena to infiltrate and affect the structure's usage; the theoretical 'inside' - cannot reject the theoretical 'outside'. New architectures do not depend solely on the layering of various potential uses, but also on the restraint of the architect and the realization that inhabitation is to some degree unpredictable. In order to deviate away from architecture as a means of creating distinction, the program of the thesis will not be a prefabricated entity to be deployed and imposed on a site, but rather an infrastructure which anticipates its own misuse.

The up-scaling done in this object makes it dysfunctional in this sense. It's cumbersome nature and extreme visibility imposes a more confrontational perspective on the reader. Implications of the appropriated images can be easily overlooked, and in the process of collating and scaling attempts to generate a visual loudness which subverts their original intent.



OBJECT INVESTIGATIONS / PROBES

OBJECT: PROBE

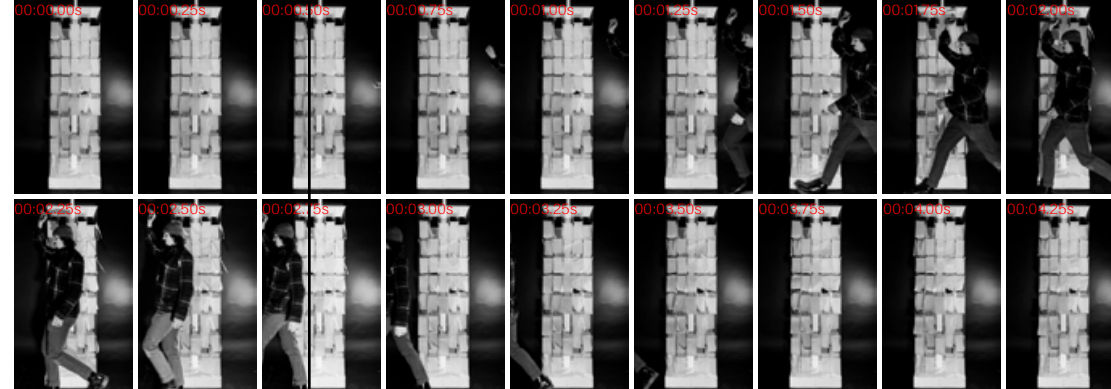


OBJECT INVESTIGATIONS / PROBES

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SCALING RELATIONSHIPS

PHENOMENA SEQUENCE



The probe is an object which is meant to engage the body and thus create a scalar relationship between the body and the place which both entities inhabit. Similar to an instrument, this device is not meant to imply how a space should be occupied. It merely reacts to any motion which occurs around it, be it a body, wind, air displacement, even a breath. It temporarily documents or records these motions. Users can not only participate in a direct interaction, but can also observe the impact of their own presence. Movements and phenomena of the body often overlooked become scalar - they have a magnitude in relationship to the object and the place.



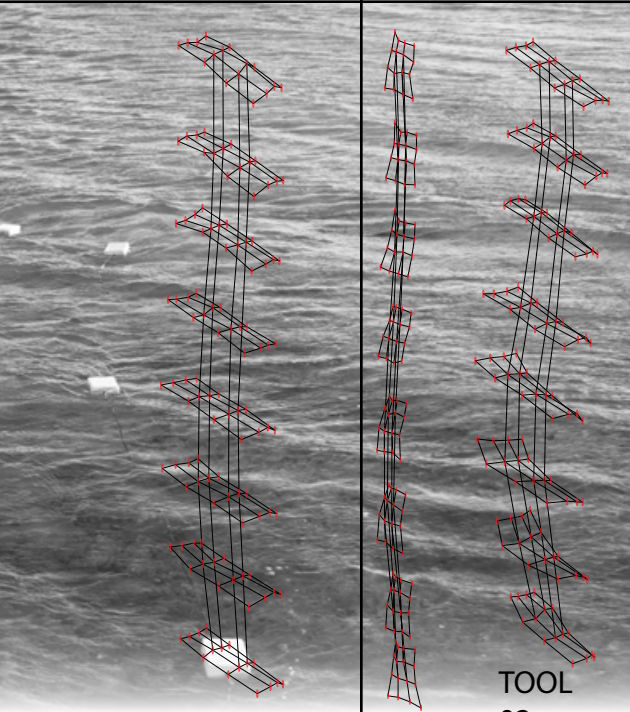
What is an authentic experience, and how can the realization of certain relationships enable architecture to create genuine moments of place, especially in the unfamiliar? New language, the mark, and impressions, are all methodologies which provide entry into how more meaningful connections can be established. Can architecture perform as the probe does - not literally, but embody the same functionalities? Scale again comes into the discussion of meaningful performance of objects in a space. Scale and size are two very distinct terms, and this distinction is critical. Size refers usually to the magnitude or extent of a singular entity, be it an object or event. Scale places entities in relationship to other entities, and so it is an awareness of scale which generates connections. Scale is the extent of an entity put into context. Consider the body; when it is perceived as an entity of a certain size, it is associated with a very limited physical extent. The extent of the body becomes much more nuanced when considered through scale, and the size of the body becomes totally arbitrary. The probe is a built form, and perhaps it inherently imposes on a space, however, it does not intend to take total control of it. Awareness is perhaps the main purpose of the instrument. The body is not constrained by its mass, it is in a perpetual state of interaction not only with place, but with other bodies as well. Bodies of water, bodies of other people, bodies of work - perhaps it is the body which comprises a place.

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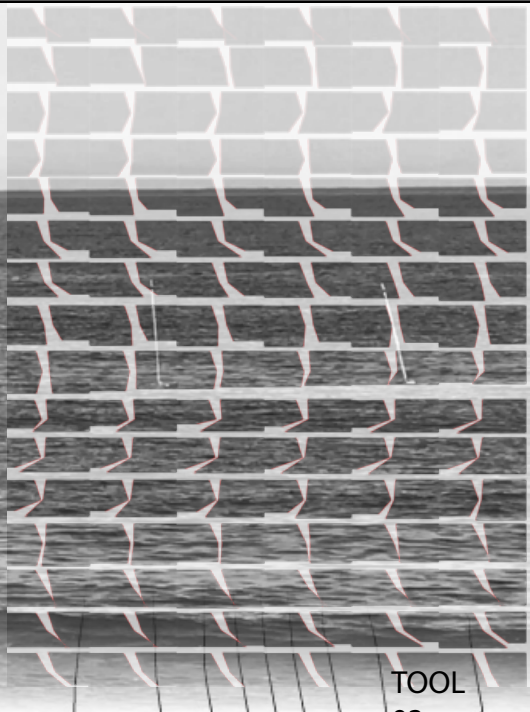
OBJECT INVESTIGATIONS / PROBES



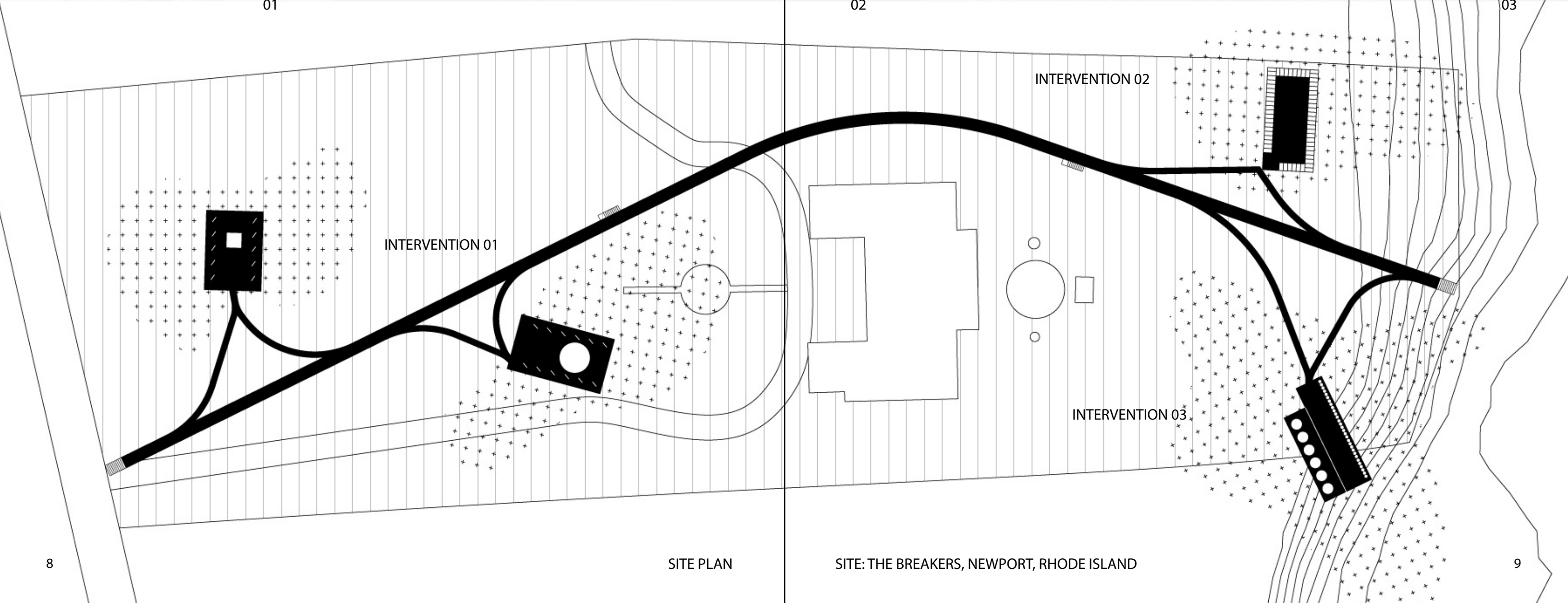
TOOL
01



TOOL
02



TOOL
03



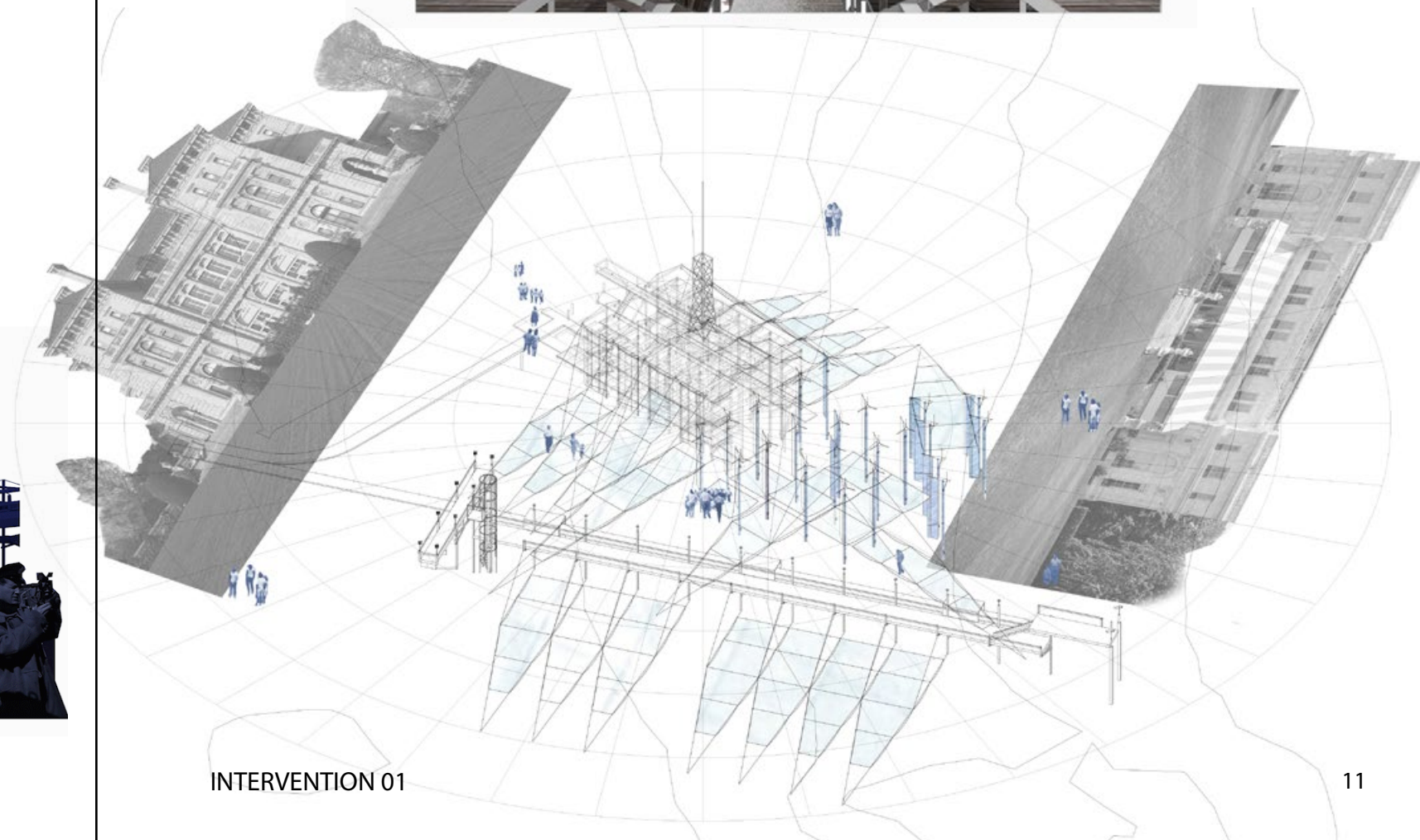
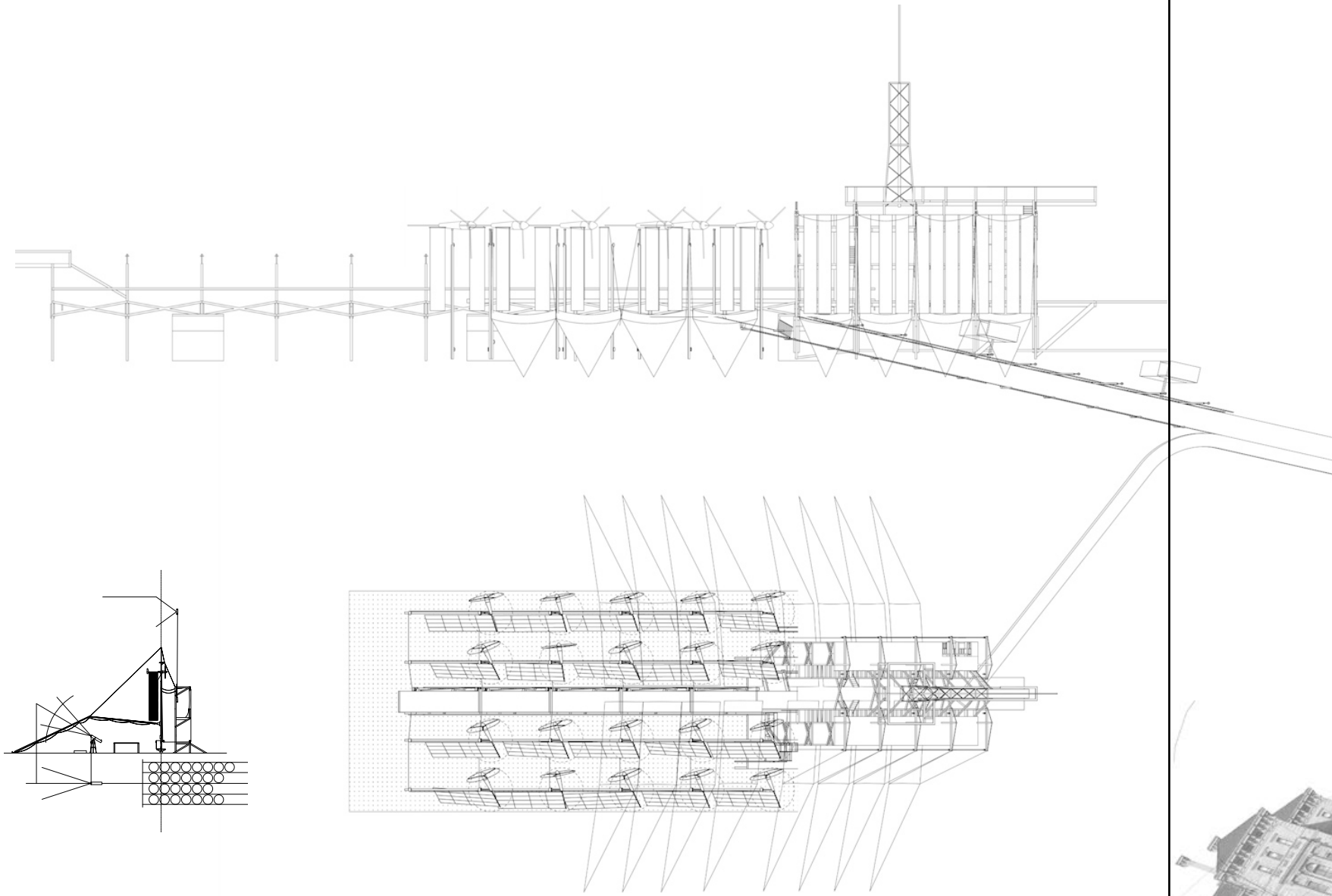
INTERVENTION 01

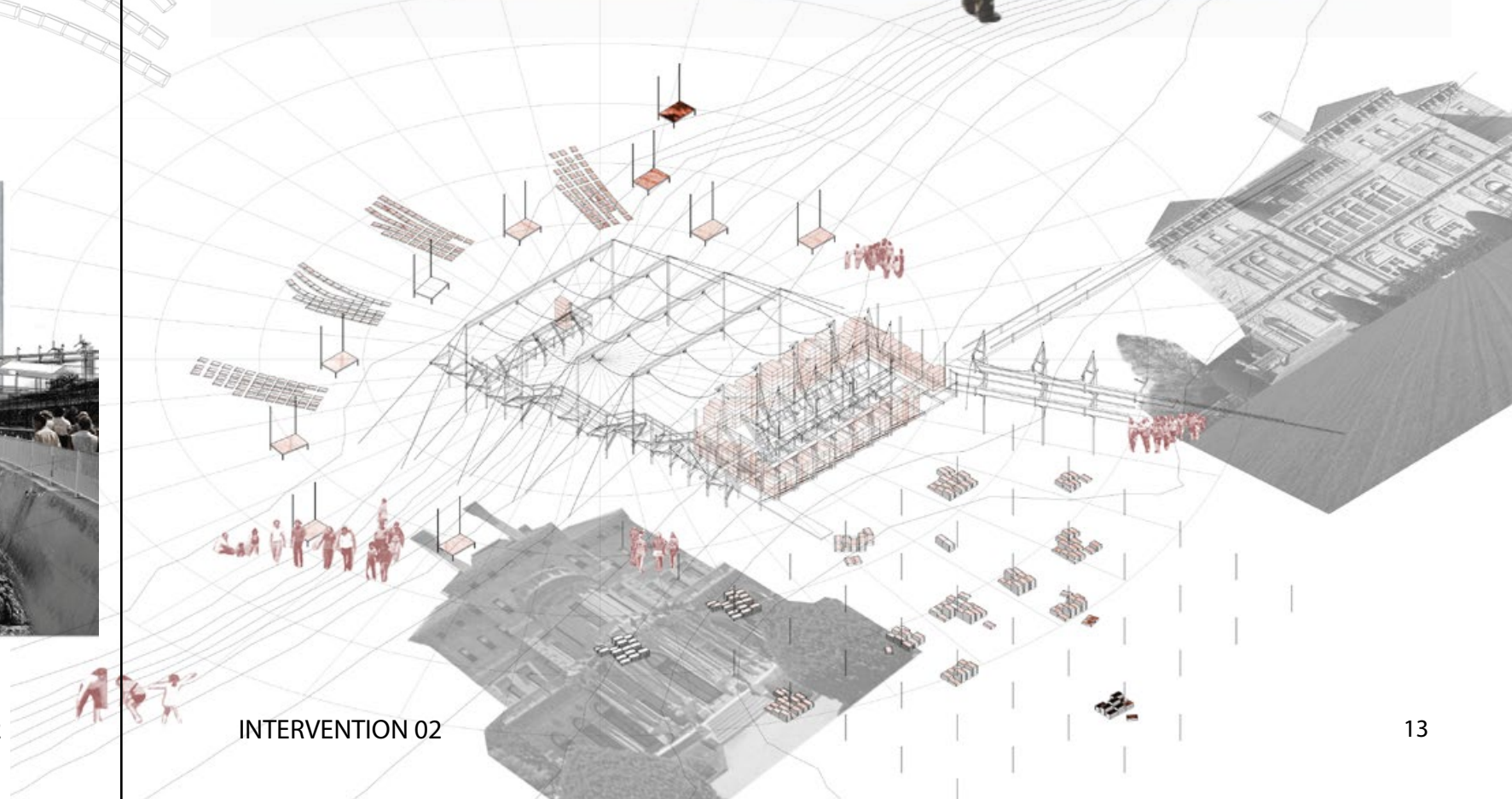
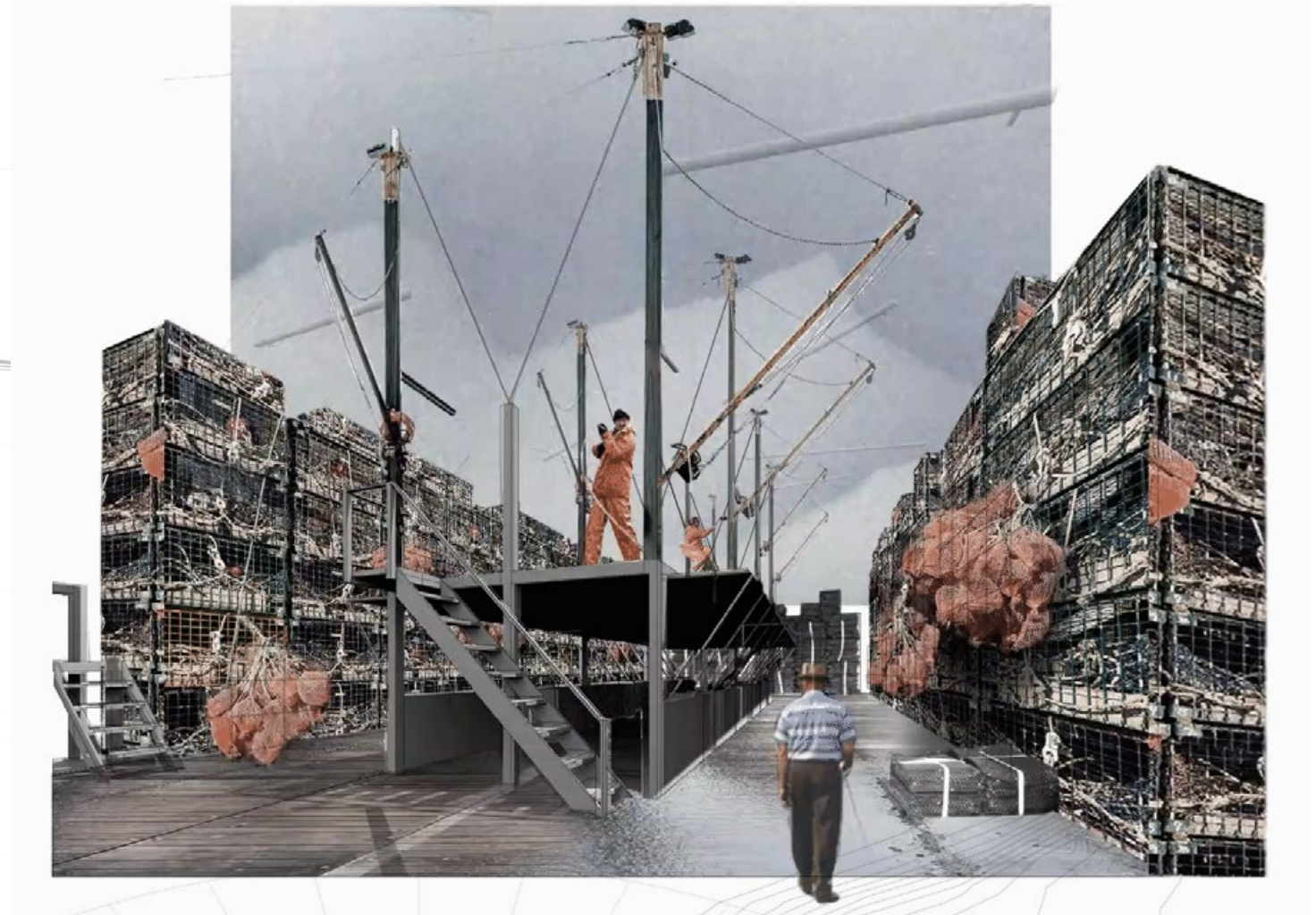
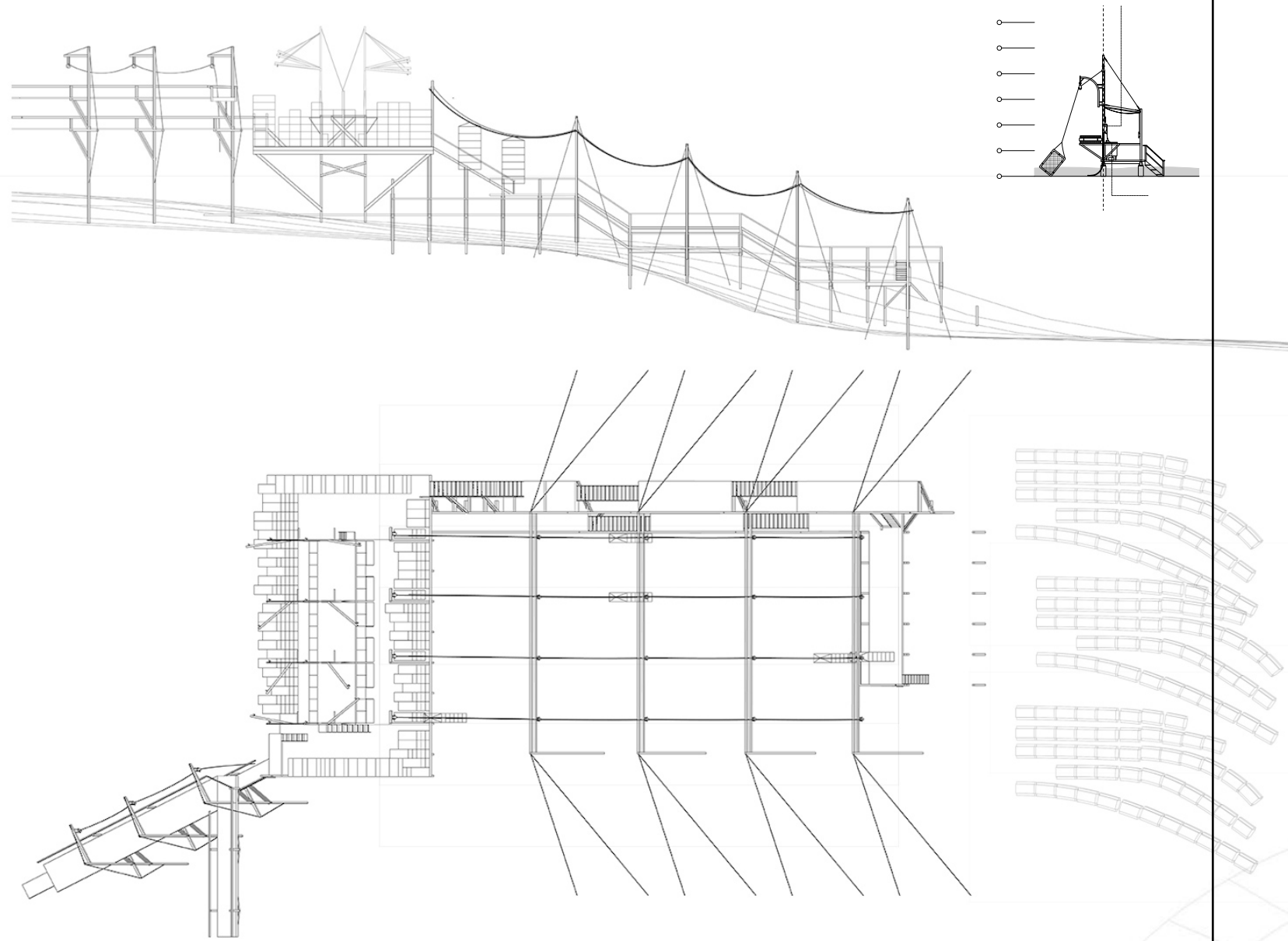
INTERVENTION 02

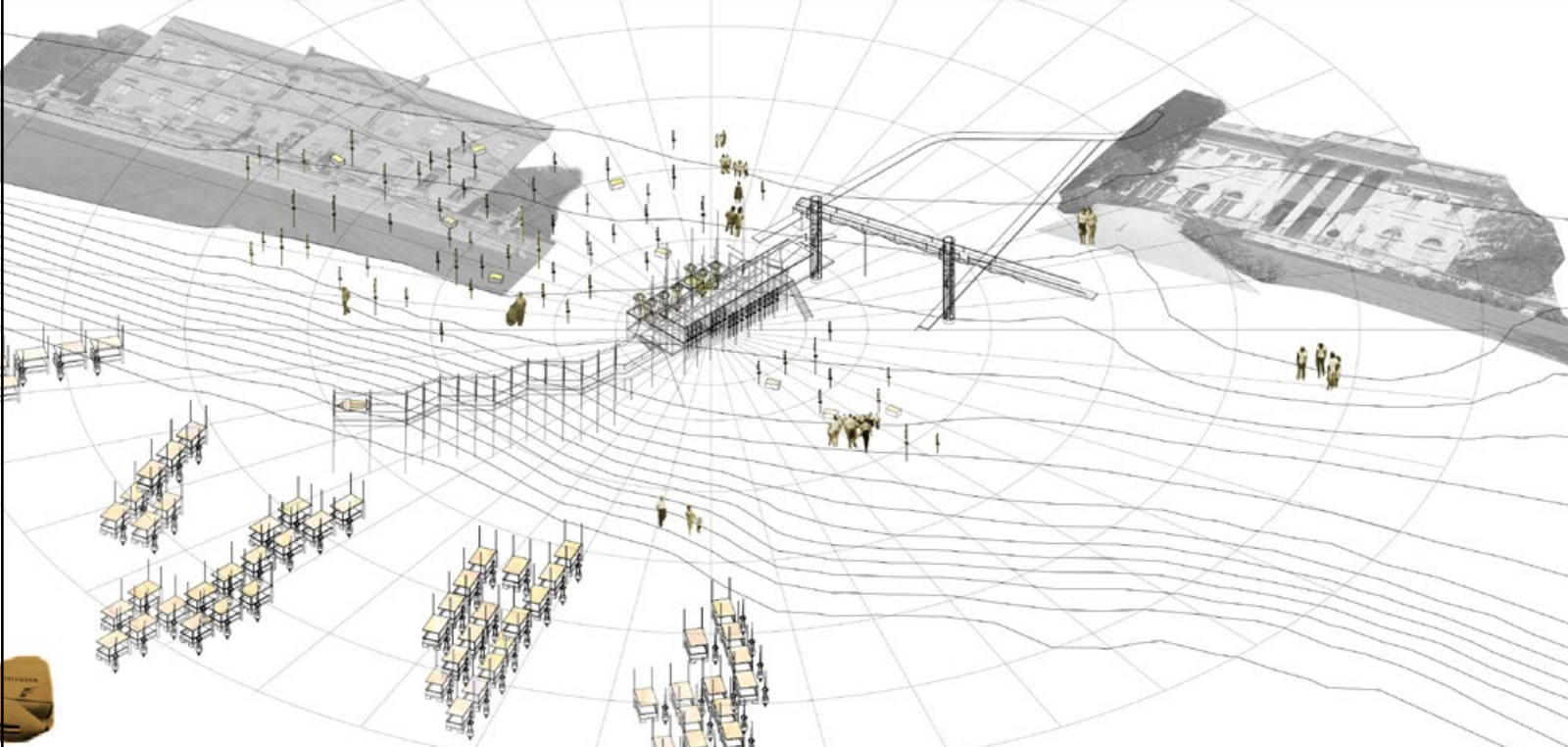
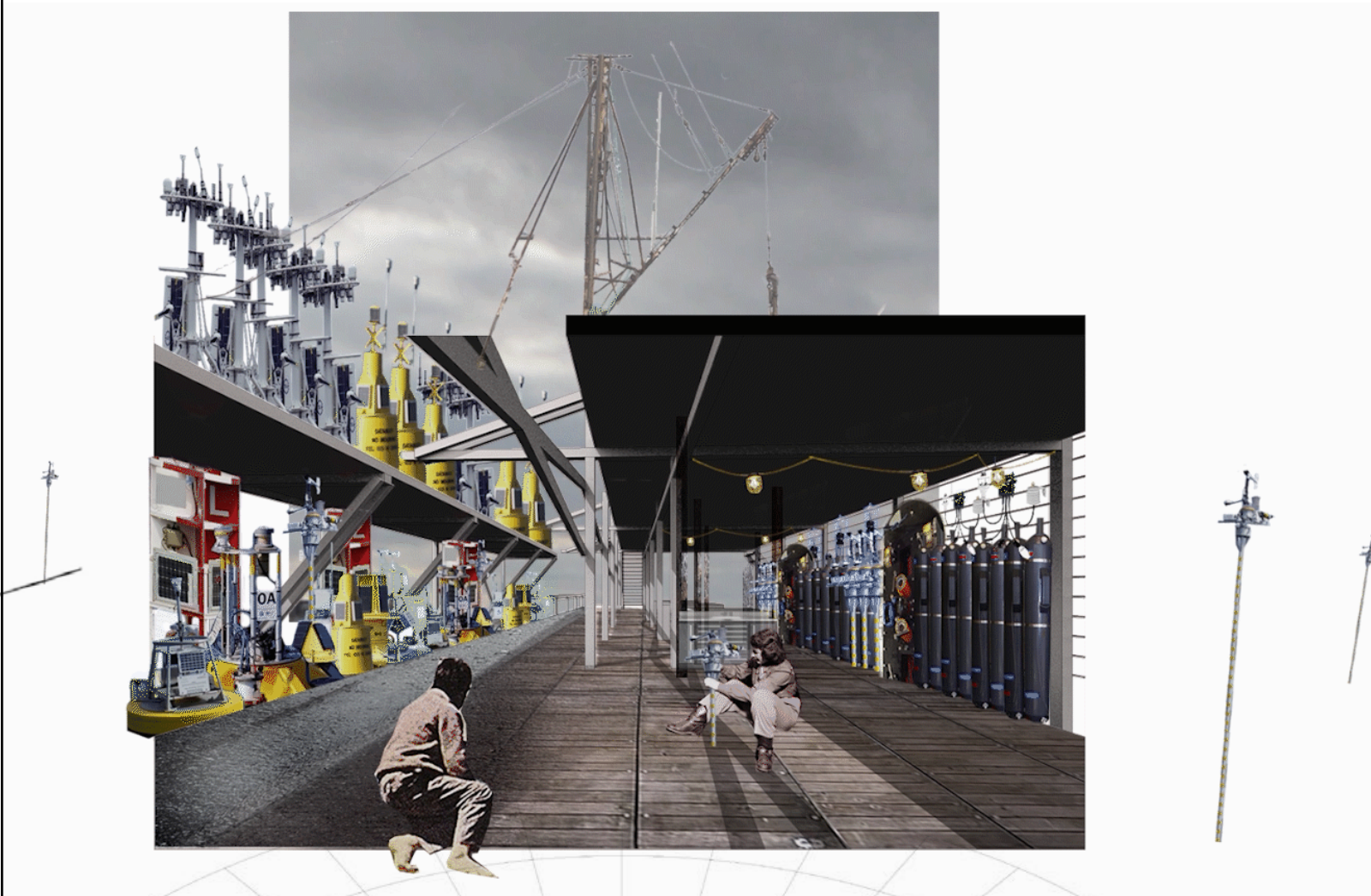
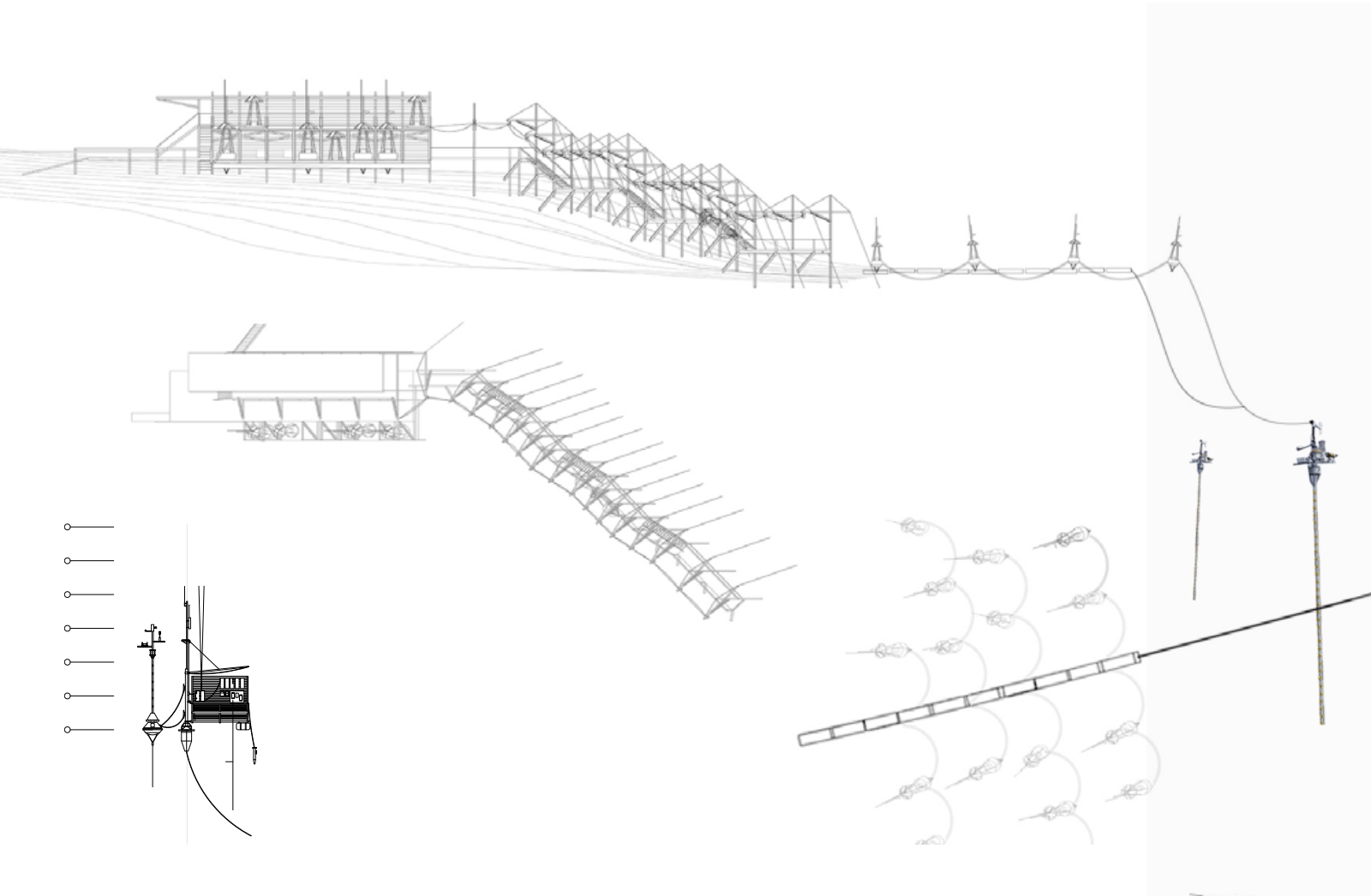
INTERVENTION 03

SITE PLAN

SITE: THE BREAKERS, NEWPORT, RHODE ISLAND





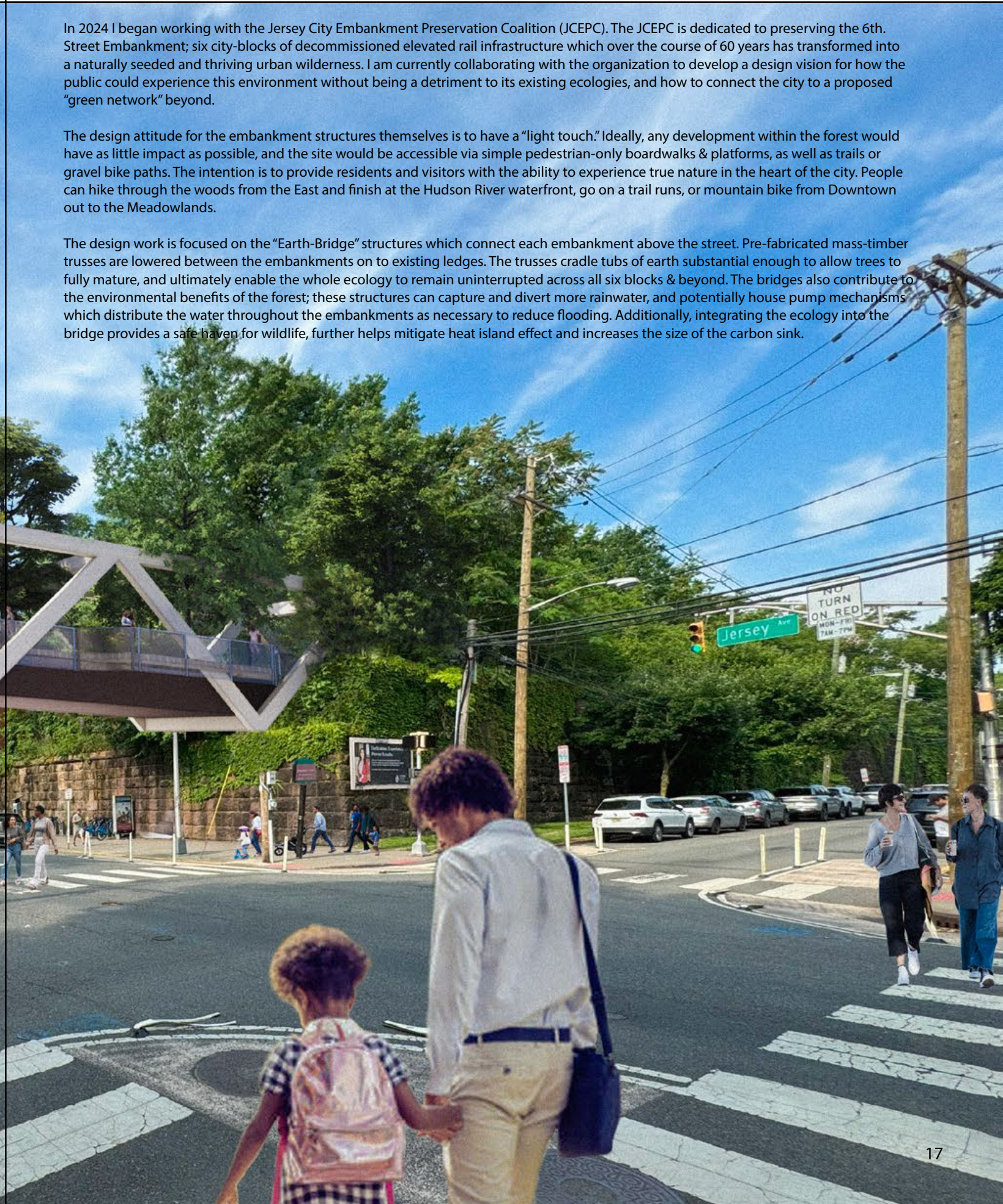


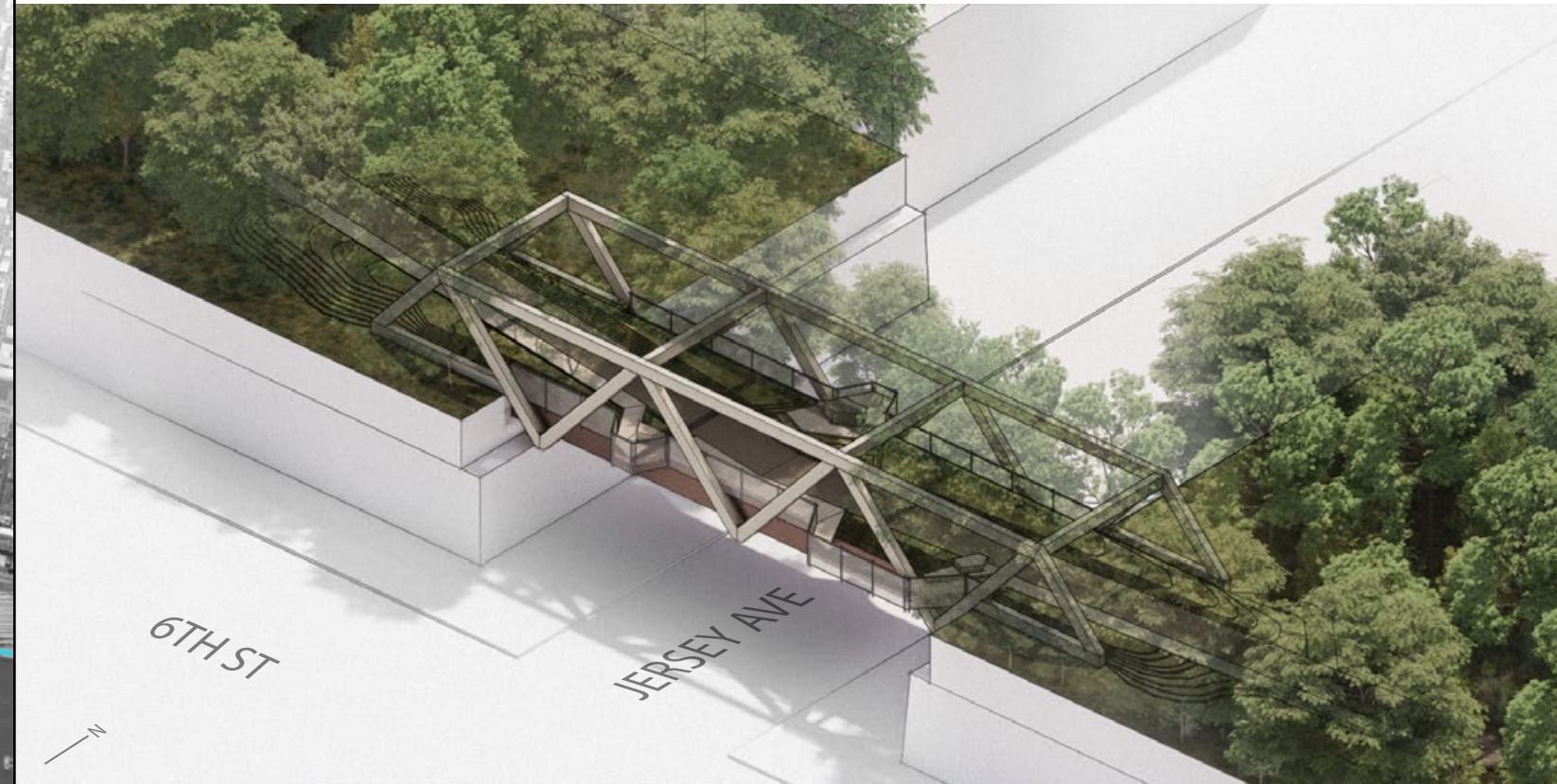
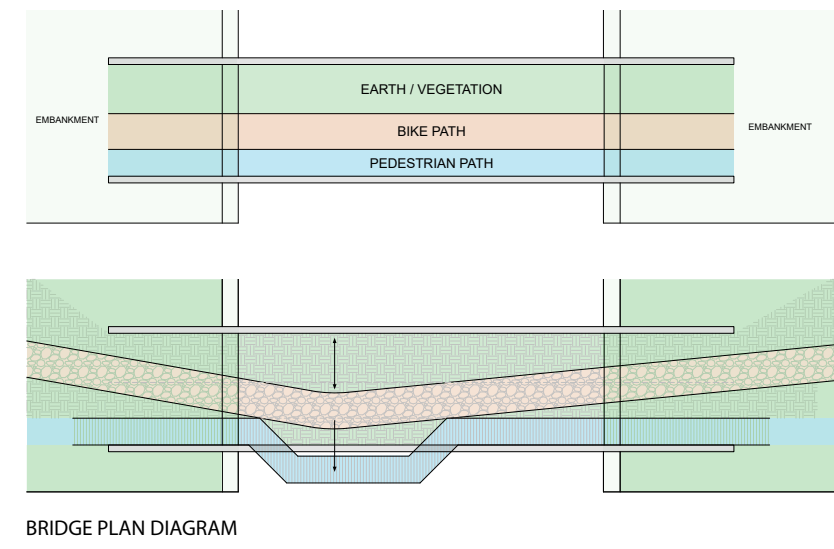
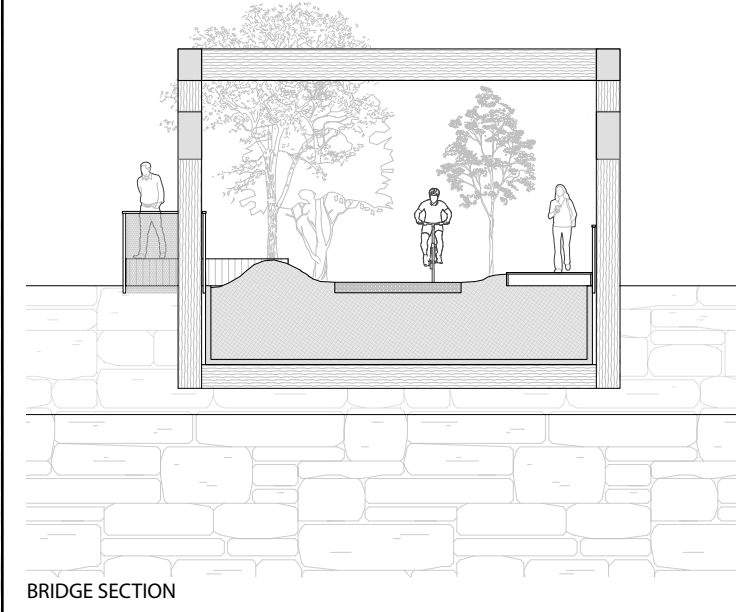
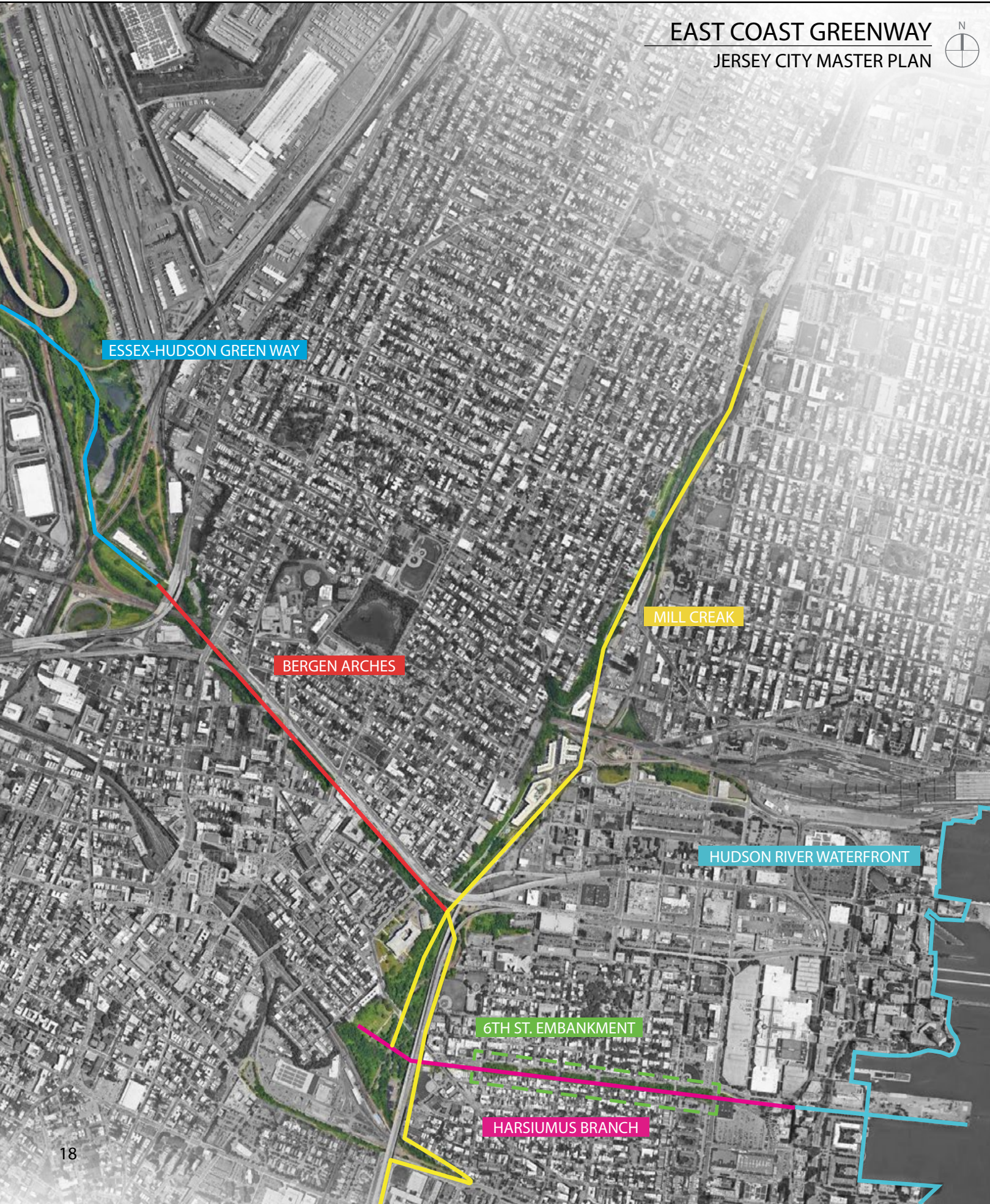


In 2024 I began working with the Jersey City Embankment Preservation Coalition (JCEPC). The JCEPC is dedicated to preserving the 6th. Street Embankment; six city-blocks of decommissioned elevated rail infrastructure which over the course of 60 years has transformed into a naturally seeded and thriving urban wilderness. I am currently collaborating with the organization to develop a design vision for how the public could experience this environment without being a detriment to its existing ecologies, and how to connect the city to a proposed "green network" beyond.

The design attitude for the embankment structures themselves is to have a "light touch." Ideally, any development within the forest would have as little impact as possible, and the site would be accessible via simple pedestrian-only boardwalks & platforms, as well as trails or gravel bike paths. The intention is to provide residents and visitors with the ability to experience true nature in the heart of the city. People can hike through the woods from the East and finish at the Hudson River waterfront, go on a trail runs, or mountain bike from Downtown out to the Meadowlands.

The design work is focused on the "Earth-Bridge" structures which connect each embankment above the street. Pre-fabricated mass-timber trusses are lowered between the embankments on to existing ledges. The trusses cradle tubs of earth substantial enough to allow trees to fully mature, and ultimately enable the whole ecology to remain uninterrupted across all six blocks & beyond. The bridges also contribute to the environmental benefits of the forest; these structures can capture and divert more rainwater, and potentially house pump mechanisms which distribute the water throughout the embankments as necessary to reduce flooding. Additionally, integrating the ecology into the bridge provides a safe haven for wildlife, further helps mitigate heat island effect and increases the size of the carbon sink.



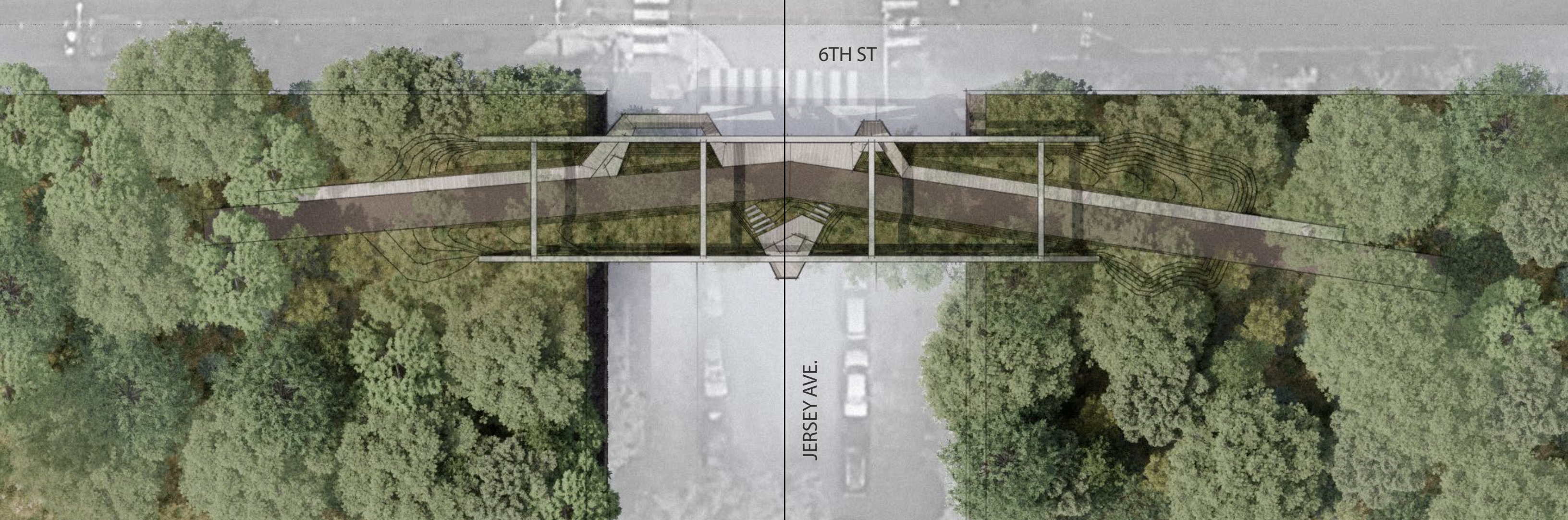




ON THE BRIDGE



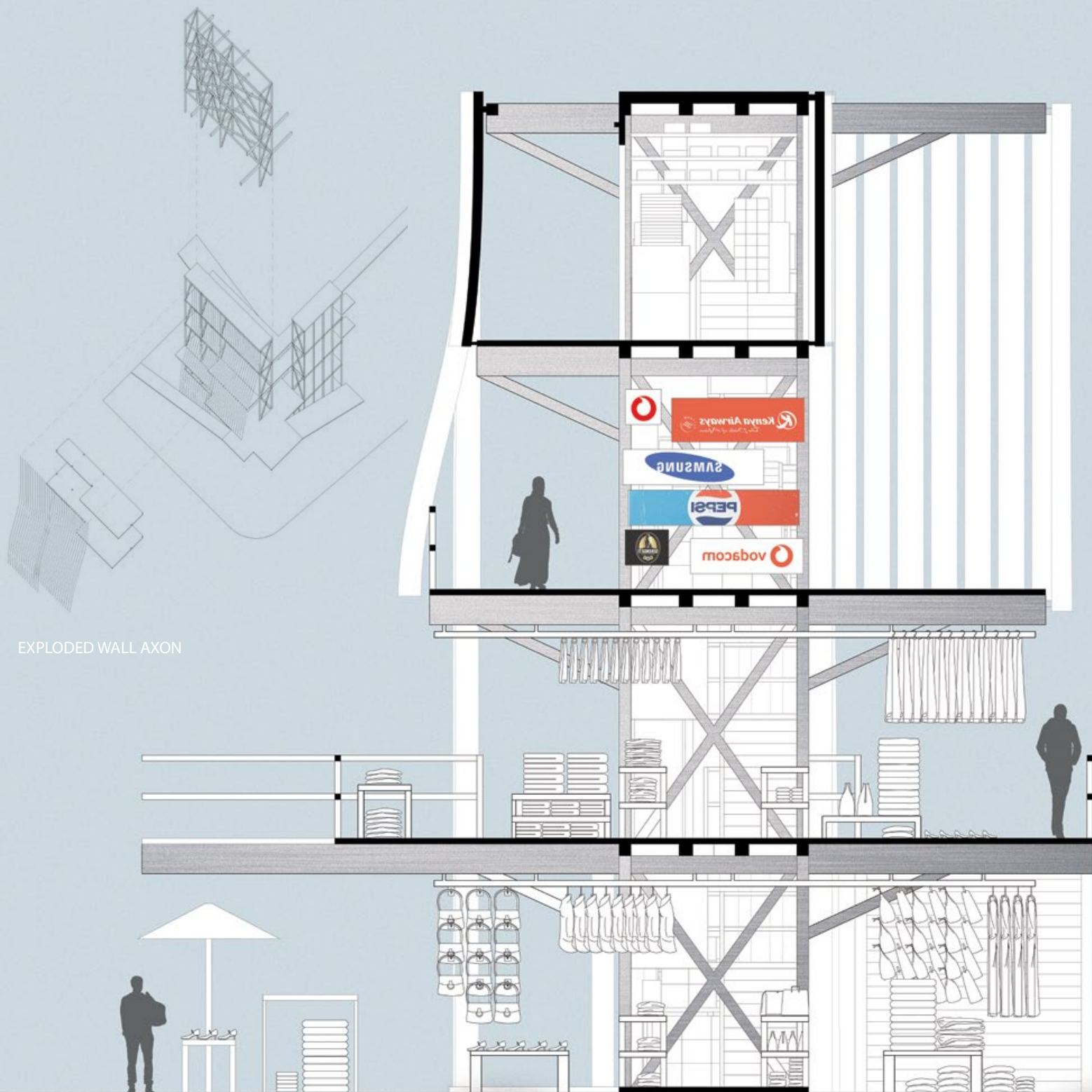
ON THE EMBANKMENT



6TH ST

JERSEY AVE.

WALL DETAIL

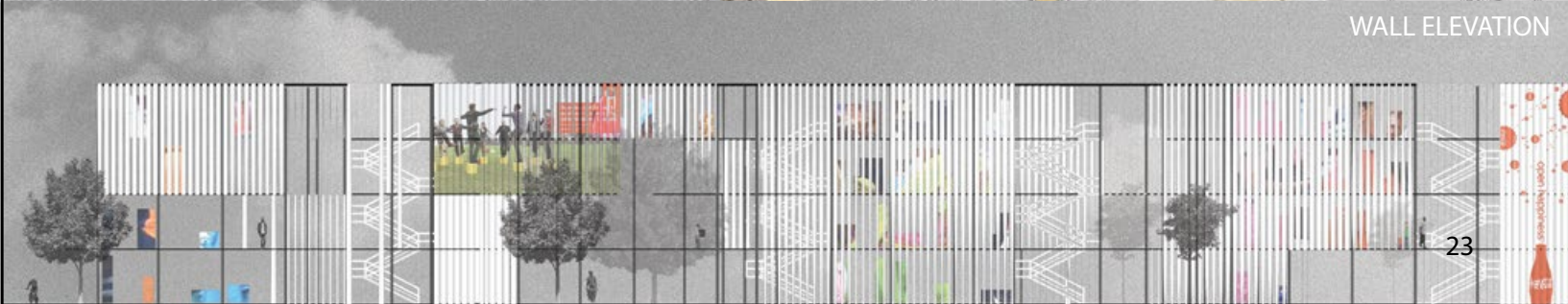


EXPLODED WALL AXON

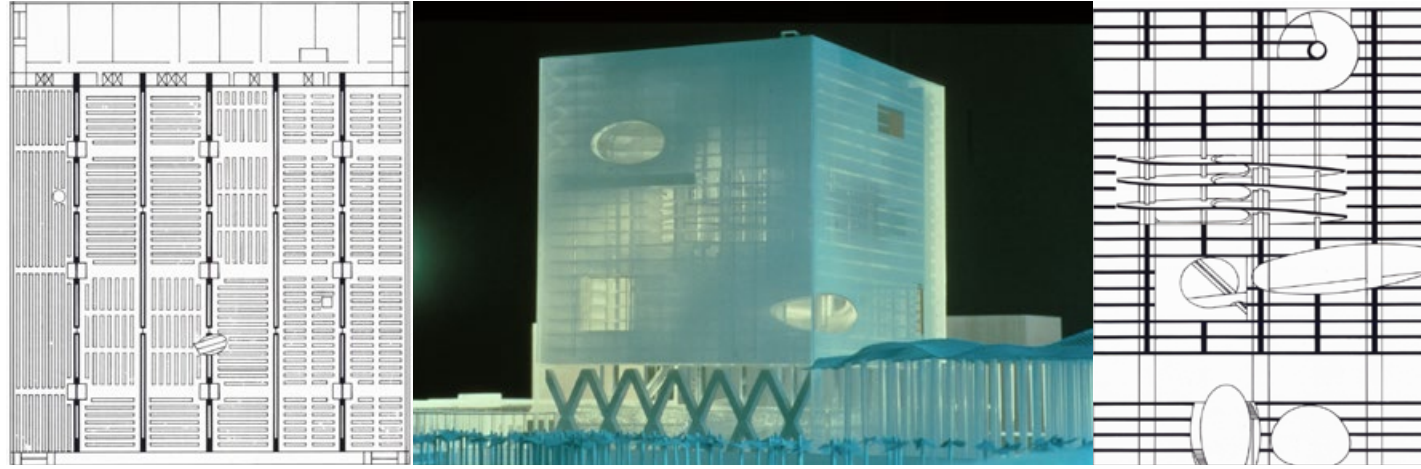


SITE AXON

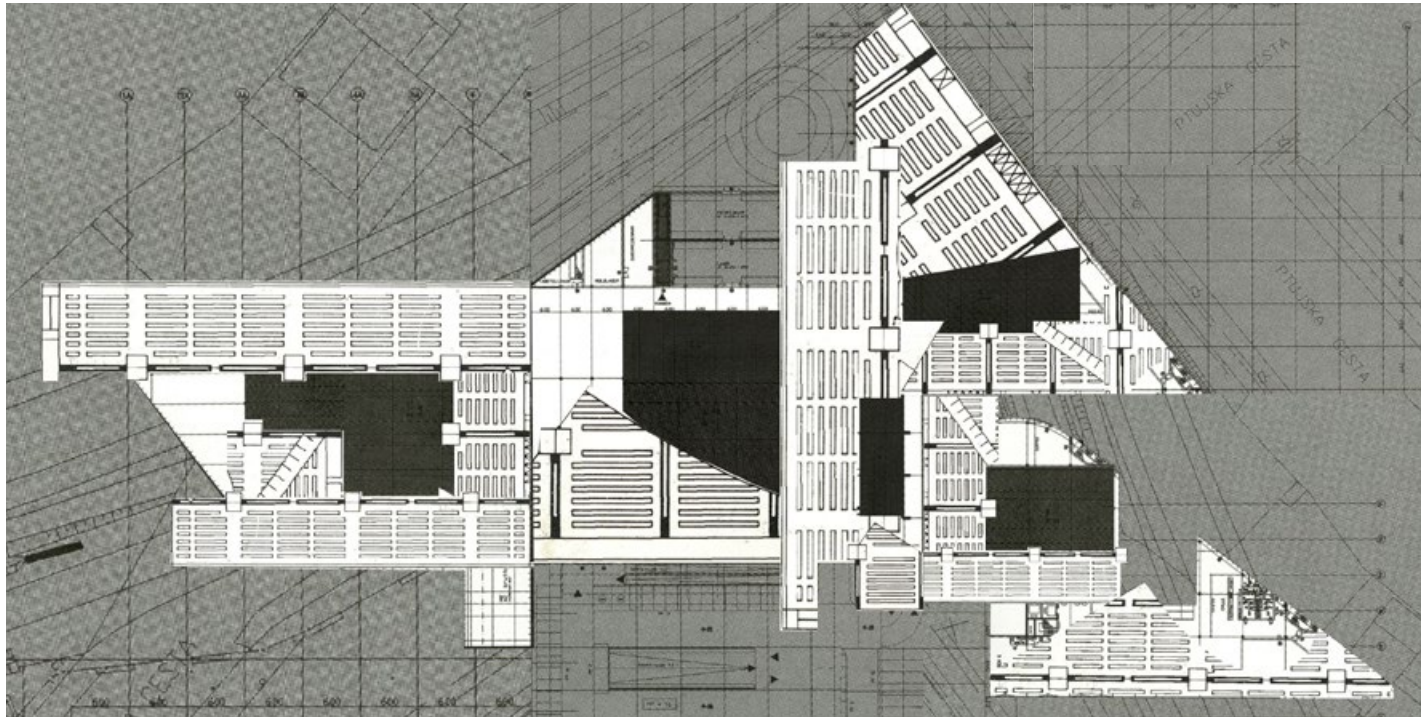
WALL ELEVATION



In a new era of post-colonialism, the city of Dar es Salaam is in the midst of a massive rural-to-urban migration. While the city grows, there is a need for architecture which aids in the erasure of the negative affects of centuries of foreign power. By combining examples of previous architecture and understanding their failures, perhaps a new form of architecture, radical in its nature, can begin to provide for the various stakeholders which now comprise the main economic forces shaping Dar es Salaam. The specific site is the Kariakoo market district. Here, street vendors, retailers, and wholesalers all converge to generate an intense flow of merchandise, and thus a hyper-visual urban experience. The intervention - a storage facility of sorts - consists of a series of 'structural walls' placed according to threshold conditions around the site. The primary inhabitant of the wall is merchandise. This strategy allows the street vendors, who account for a significant portion of the city's economic drive, to conduct business in a way which empowers the economic culture of the city's inhabitants.



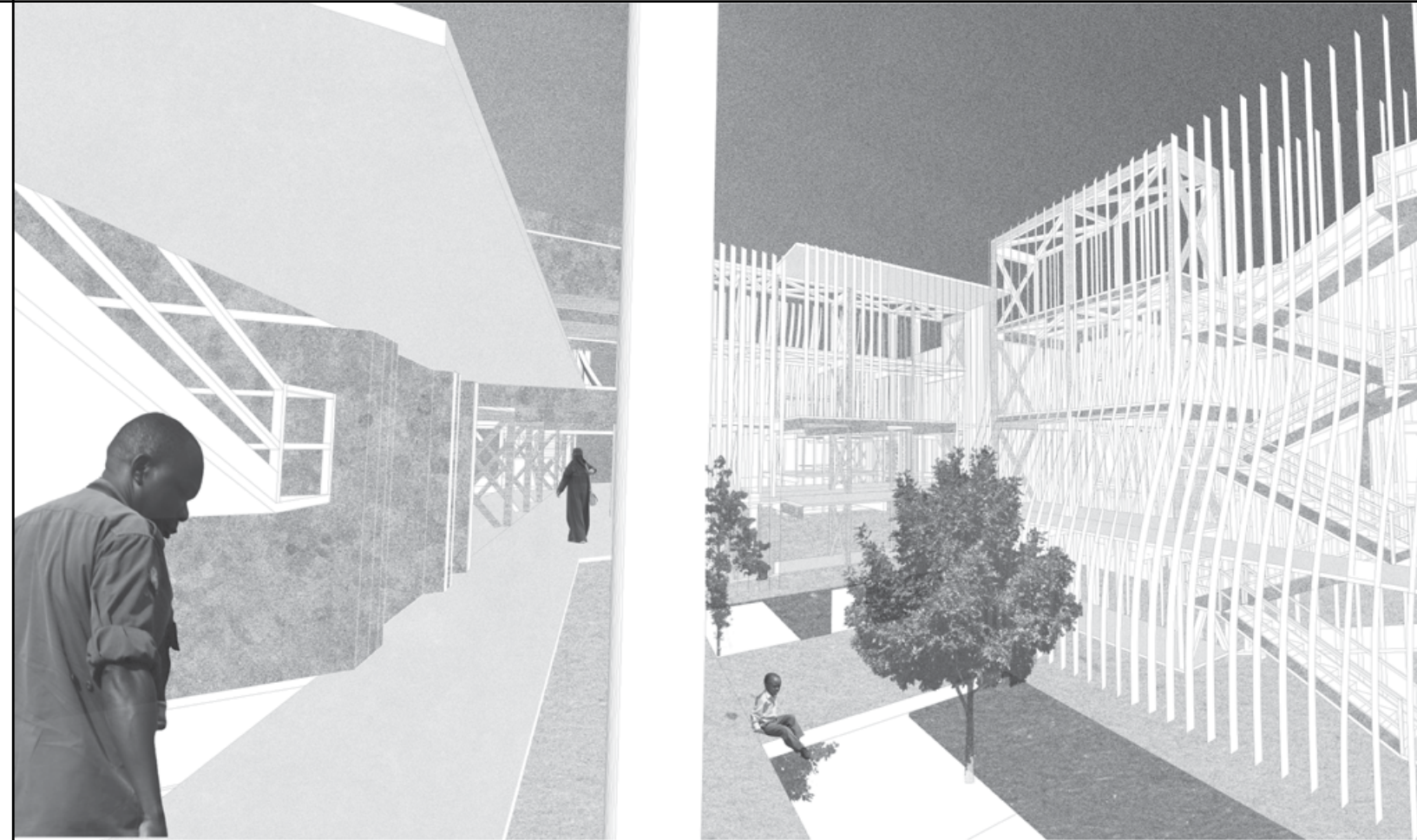
SAMPLE 1: TRES GRAND BIBLIOTHEQUE [OMA]



SAMPLE COMBINATION COLLAGE



SAMPLE 02: BAUMAXX HYPERMARKET [NJIRIC + NJIRIC]



INTERIOR VIEW INTO COURTYARD



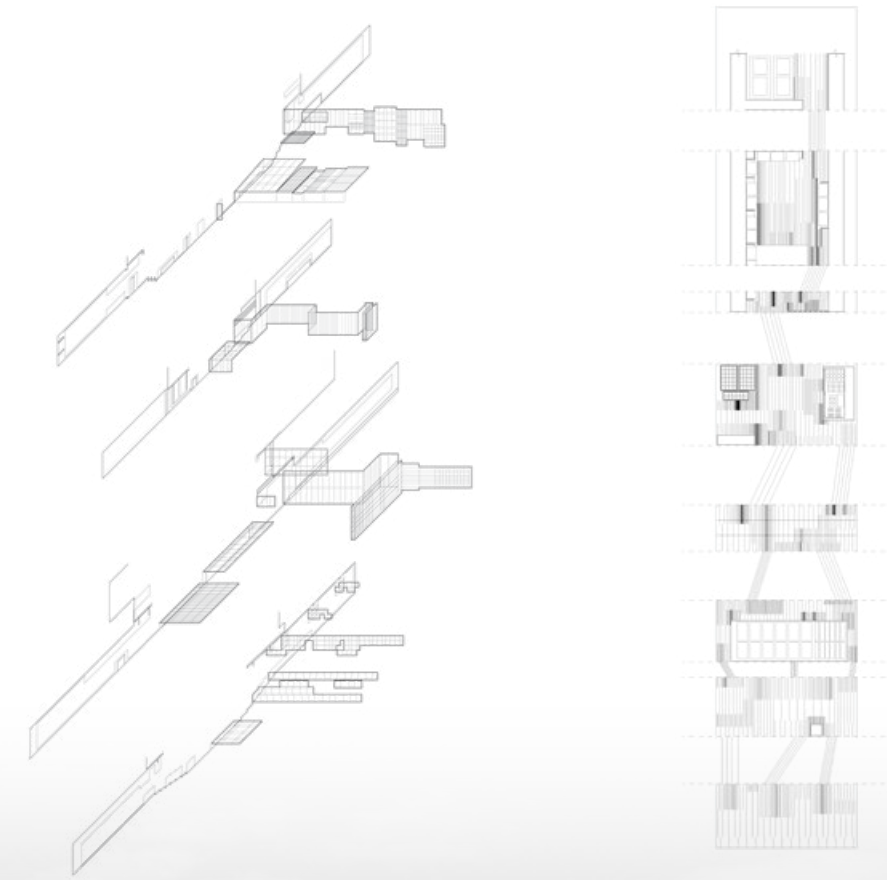
KARIAKOO: FLOW OF MERCHANDISE



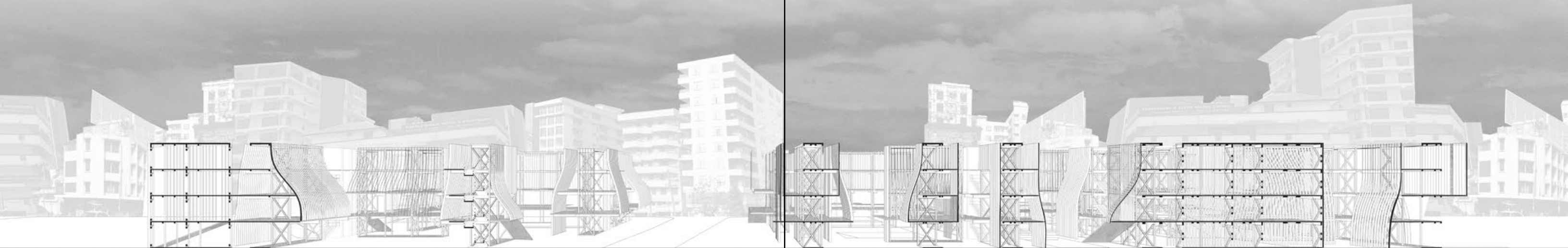
GROUND FLOOR PLAN



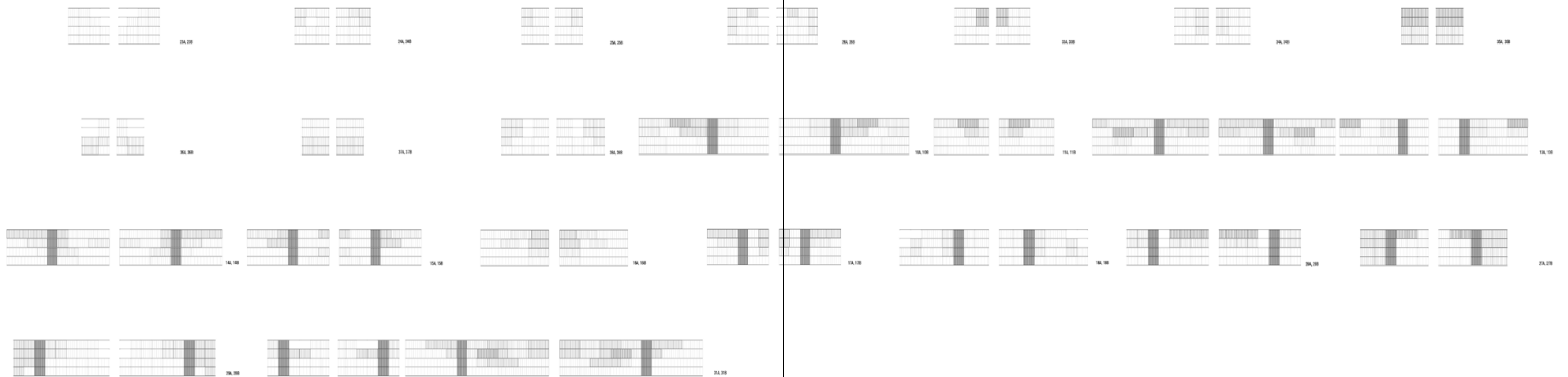
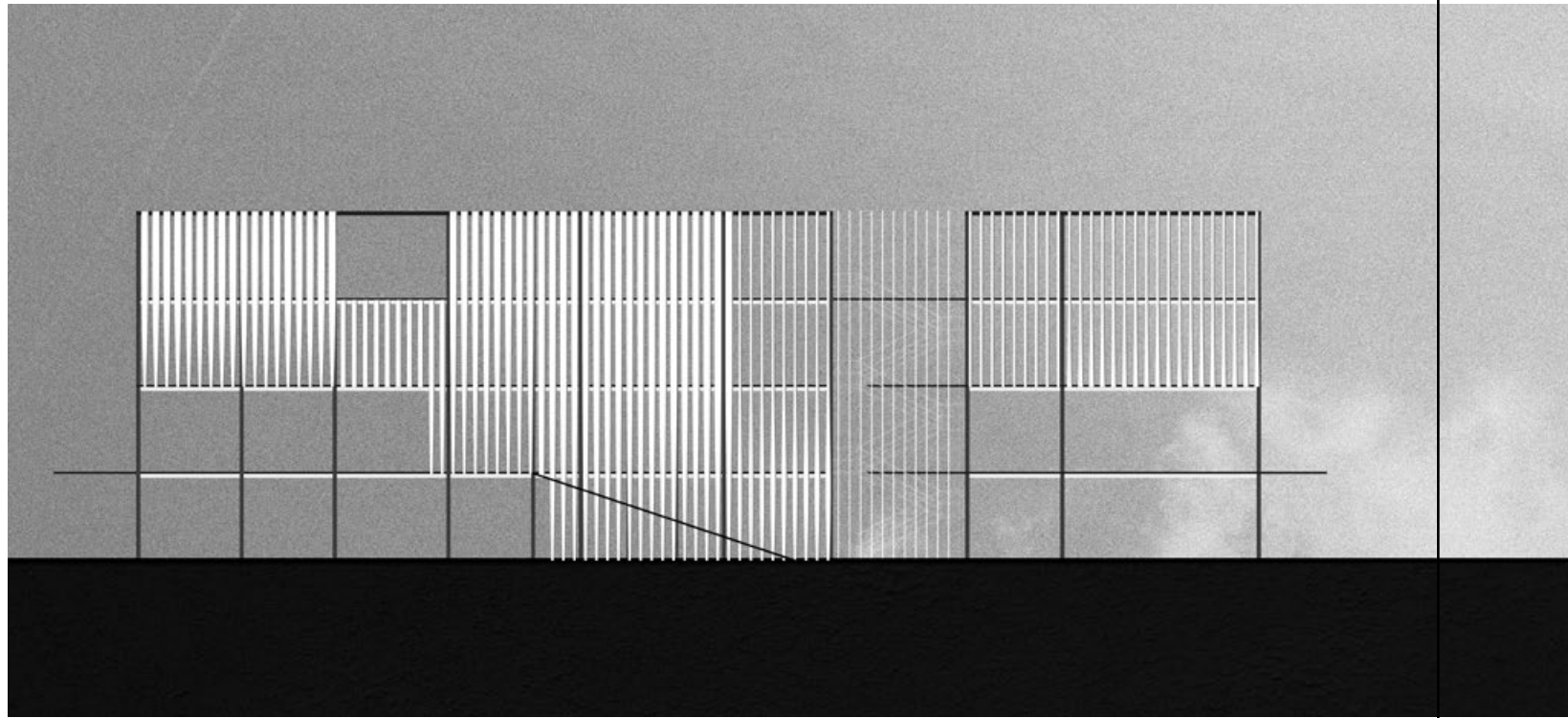
UPPER LEVEL PLAN



MARKET ANALYSES: MERCHANDISE + THRESHOLDS



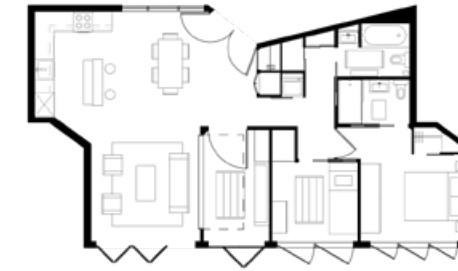
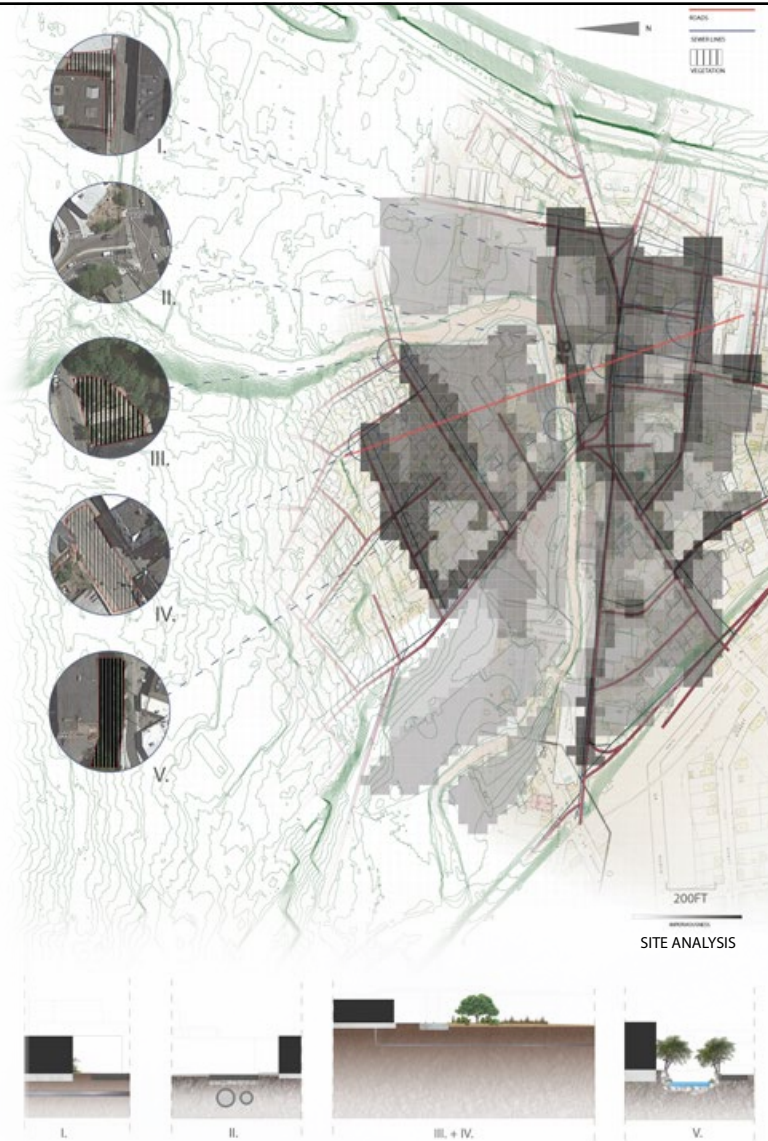
SECTION PERSPECTIVE



A major drawback present in typical new urban housing projects is that they follow a design formula that seems antithetical to the core values of urban life. These dwellings are often amenity-centric monoliths which aesthetically homogenize vastly different neighborhoods. The proposal for this housing project is founded on the necessity to create accessible urban living that is connected to the community around it.

The housing consists of a series of thin, alternating 'bars.' These residential 'bars' are a part of an interconnected 'single-loaded' scheme, in which the circulation of the entire complex is exterior in order to fuse the housing together with public program and the site. The ability for public venue to flow freely through the site, creates an environment which embraces the closeness of local urban culture. The housing modules effectively stitch the site together across the Woonasquatucket River to create an urban topography that provides greater access to the unique natural features of the neighborhood and its surroundings.

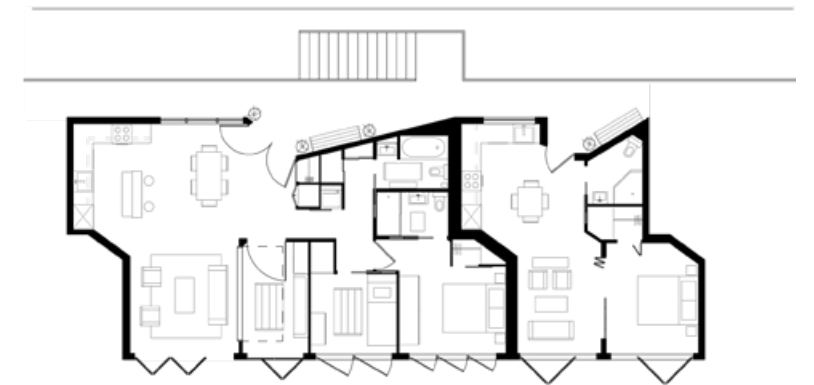
The project also includes an 'ecological infrastructure' component. This infrastructure is meant to contribute to the new housing and the greater community. The Master plan shows how semi-permanent urban agriculture nodes can be deployed on vacant lots and underutilized spaces around the site to help sequester rainwater that would otherwise be toxic runoff into the nearby river. These nodes could grow produce, or provide additional green space.



MULTI-BEDROOM UNIT

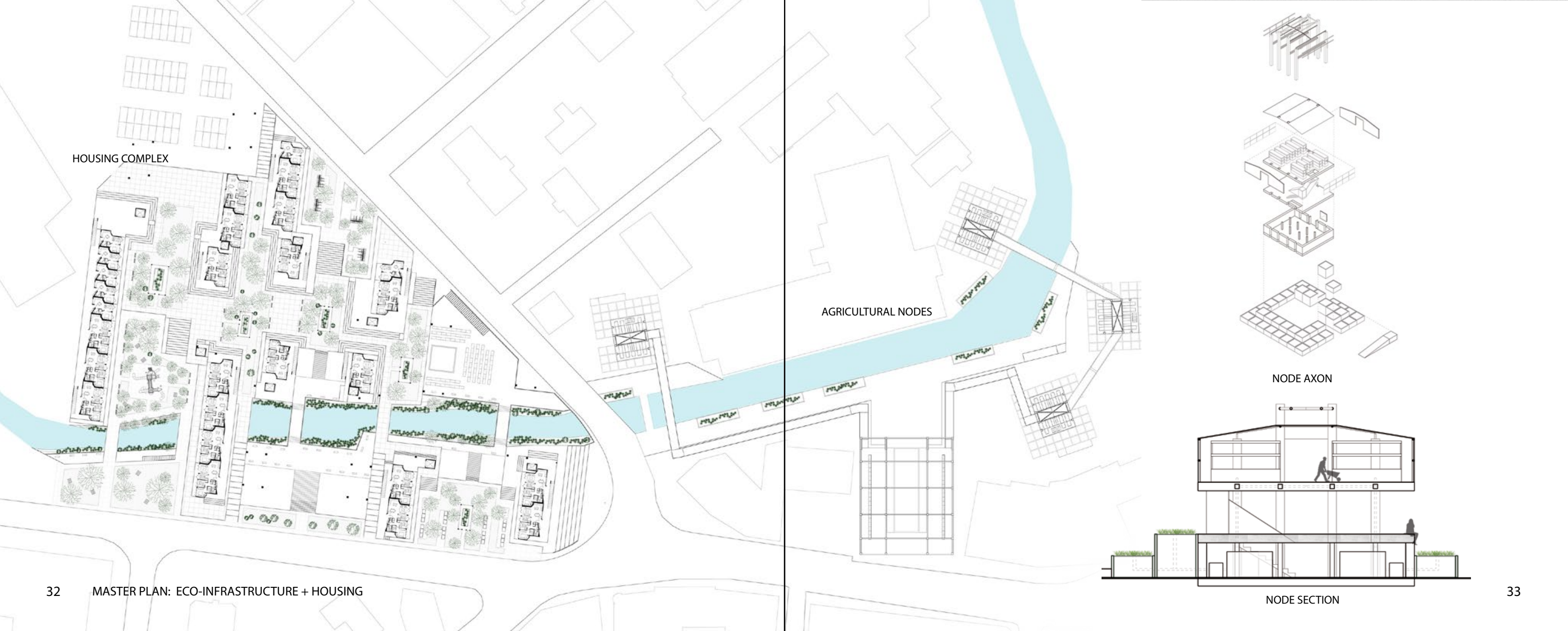


SINGLE BEDROOM UNIT



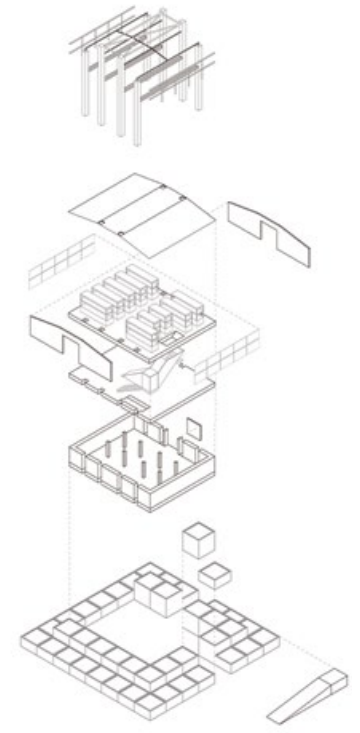


HOUSING 'BAR' SECTION

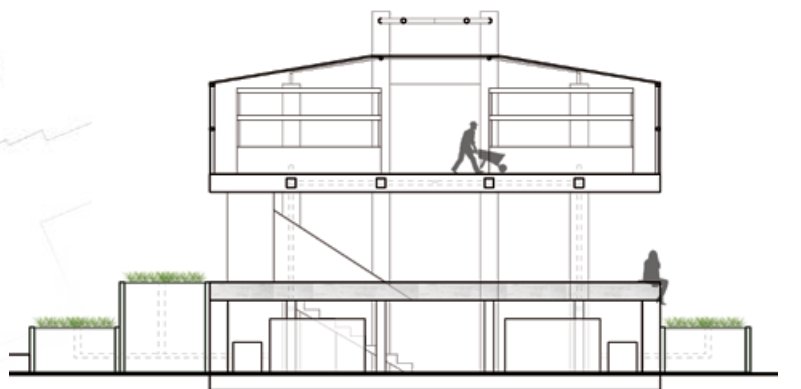


HOUSING COMPLEX

AGRICULTURAL NODES



NODE AXON



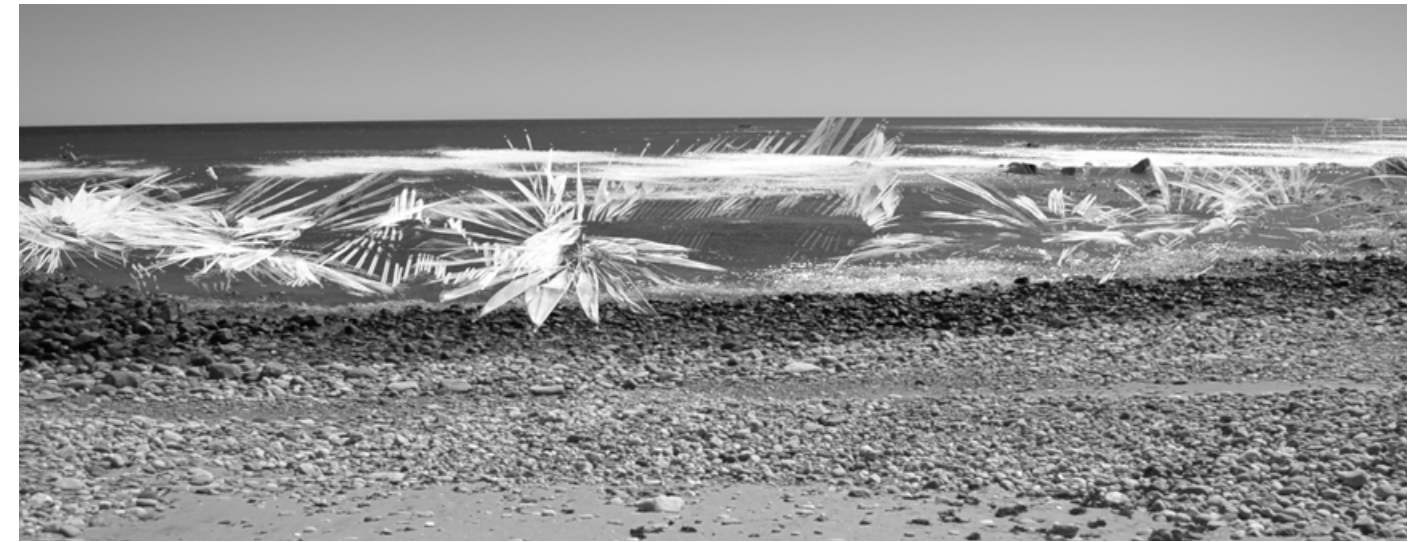
NODE SECTION



How do you draw the world? How can you draw something as dynamic as an ocean? While sketching at the shore, each mark seemed unable to express the energy so tangible in the intertidal zone. Thin sheets of waves that blanket the shore, they advance and recede. The water in perpetual motion crashes and churns the granular floor, producing a deep and ceaseless hum. Wind gusts push against the body. These forces are grounding, and cause the awareness of physical presence. My marks of charcoal were creating only a still life, unliving and absent of my surroundings.

I wander down to the water's edge, and submerge a stack of paper into the shallows. With water as medium, the charcoal marks became saturated with the same energy I was observing, and could be responsive and expressive, instead of only illustrative. This moment marks the beginning of an investigation of how we can draw to create a sense of place.

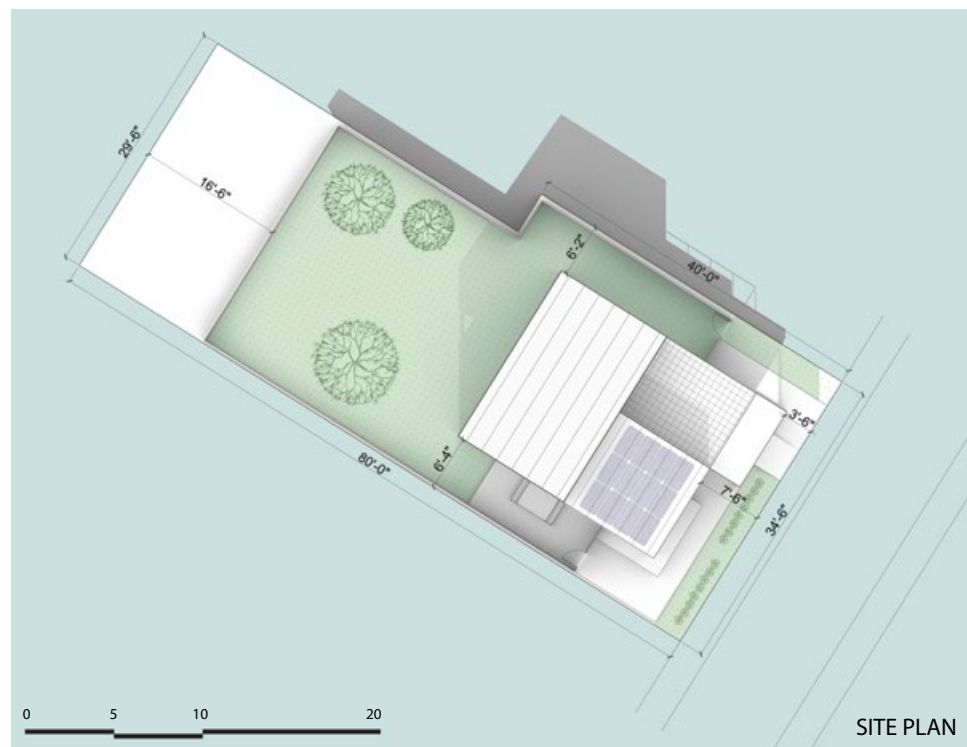
The instinct to dip the paper perhaps speaks to a greater connection between our body and the environment. The Earth and its oceans breathe as we do. The push and pull of muscles on the lungs like the push and pull of the tides. A perpetual exchange of oxygen between our bodies and the bodies of water around us. Tuning in to this relationship enables the body itself to become the portal which provides access to a greater understanding of the places we inhabit.





EXTERIOR RENDER

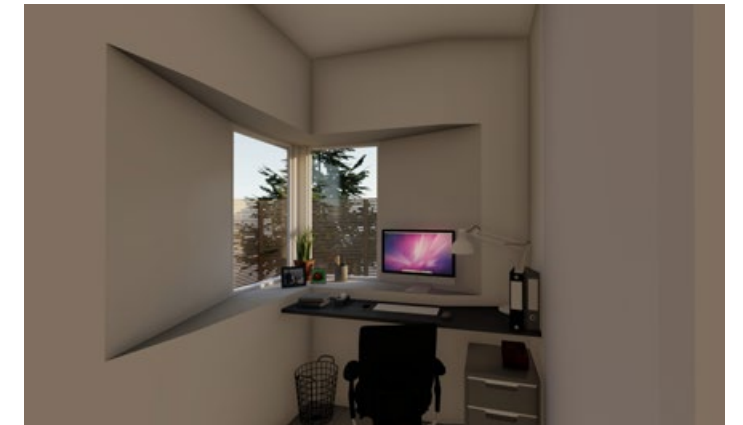
In collaboration with One Neighborhood Builders, this studio course focused on designing a Small-House which maximizes openness and flexibility at the scale of the house itself, but also at the scale of the housing market. An even bigger challenge - affordability. These houses are proposed as units which comprise a full complex that was actually constructed. In a city which seeks to retain its inhabitants, the studio is an active response to the population trends of Providence, RI. This was a studio wide collaborative in which two teams eventually consolidated design ideas to produce two housing types. Town meetings and surveys were also part of the design process.



SITE PLAN



LIVING ROOM



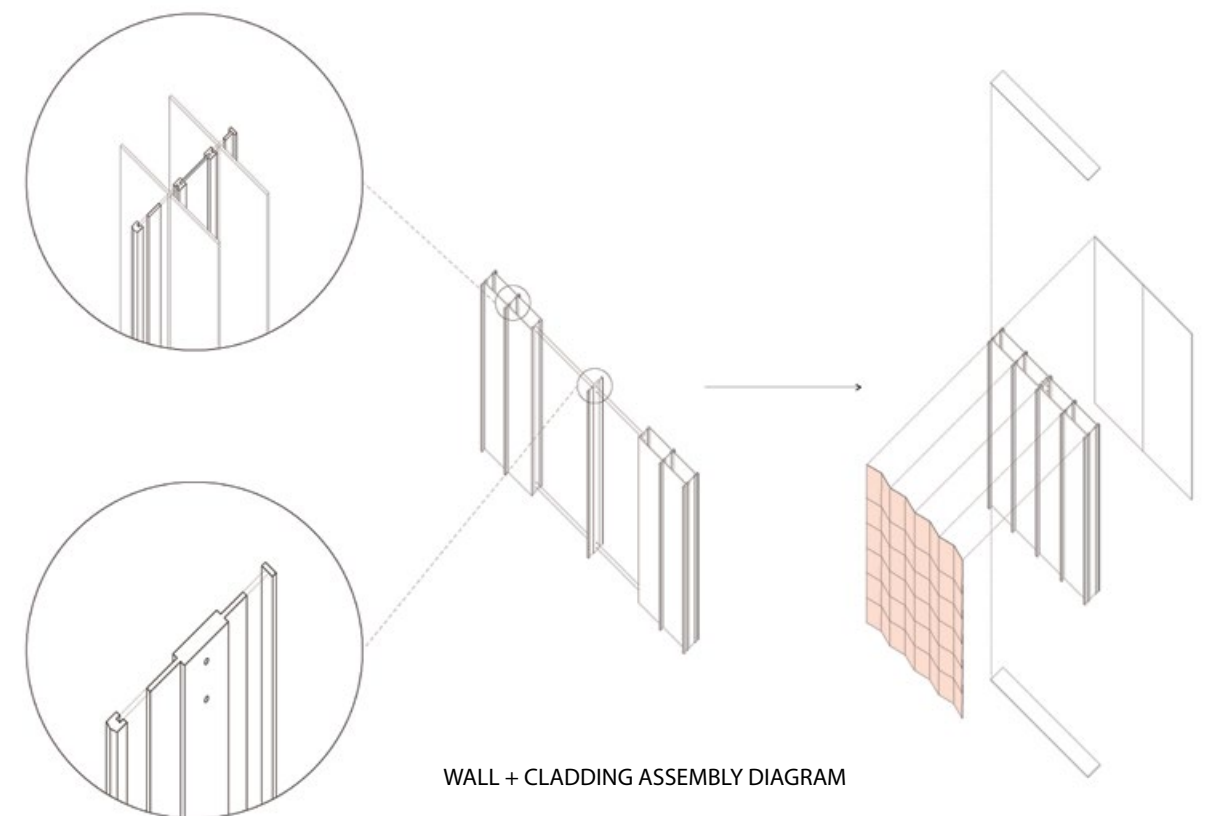
OFFICE 'NOOK'



BEDROOM



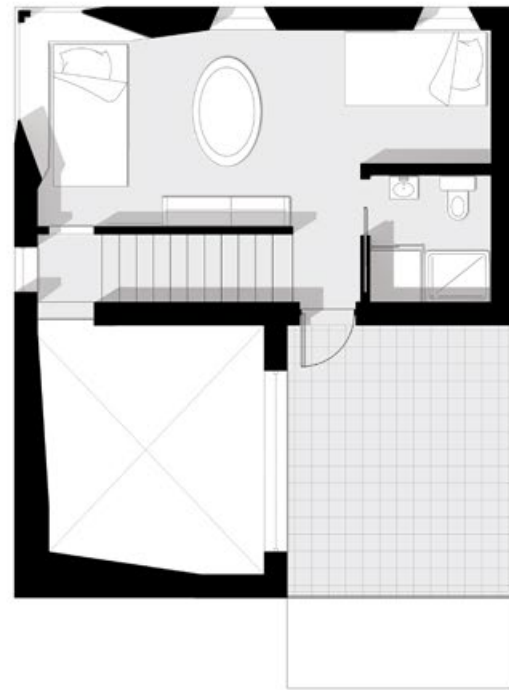
BACKYARD



WALL + CLADDING ASSEMBLY DIAGRAM



1ST FLOOR PLAN



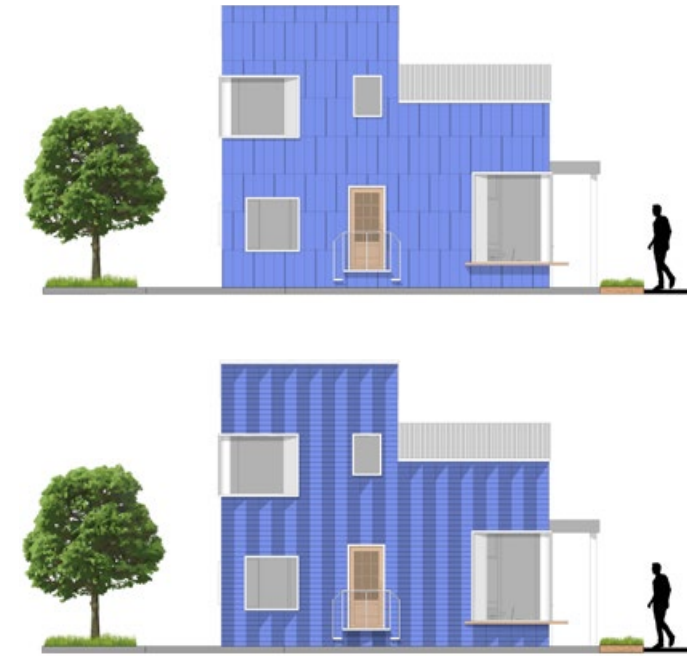
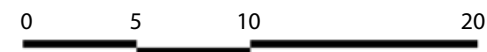
2ND FLOOR PLAN



1ST FLOOR PLAN: TRANSITION



2ND FLOOR PLAN: WITH ADDITION



CLADDING SYSTEM STUDIES



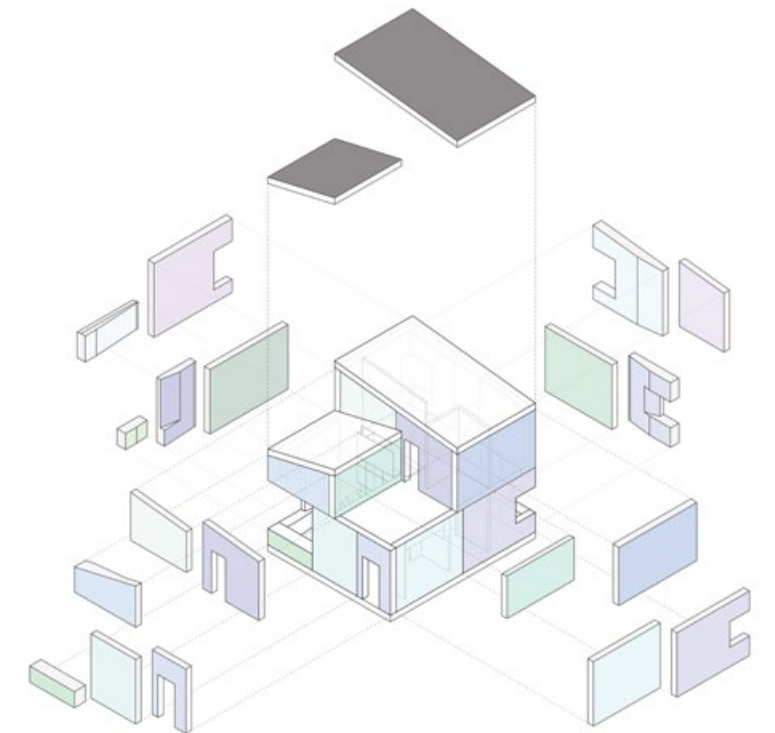
OPEN-TOP MODEL



SECTION PERSPECTIVE



SECTION PERSPECTIVE COLLAGE



PANELIZATION DIAGRAM



BREEZEWAY



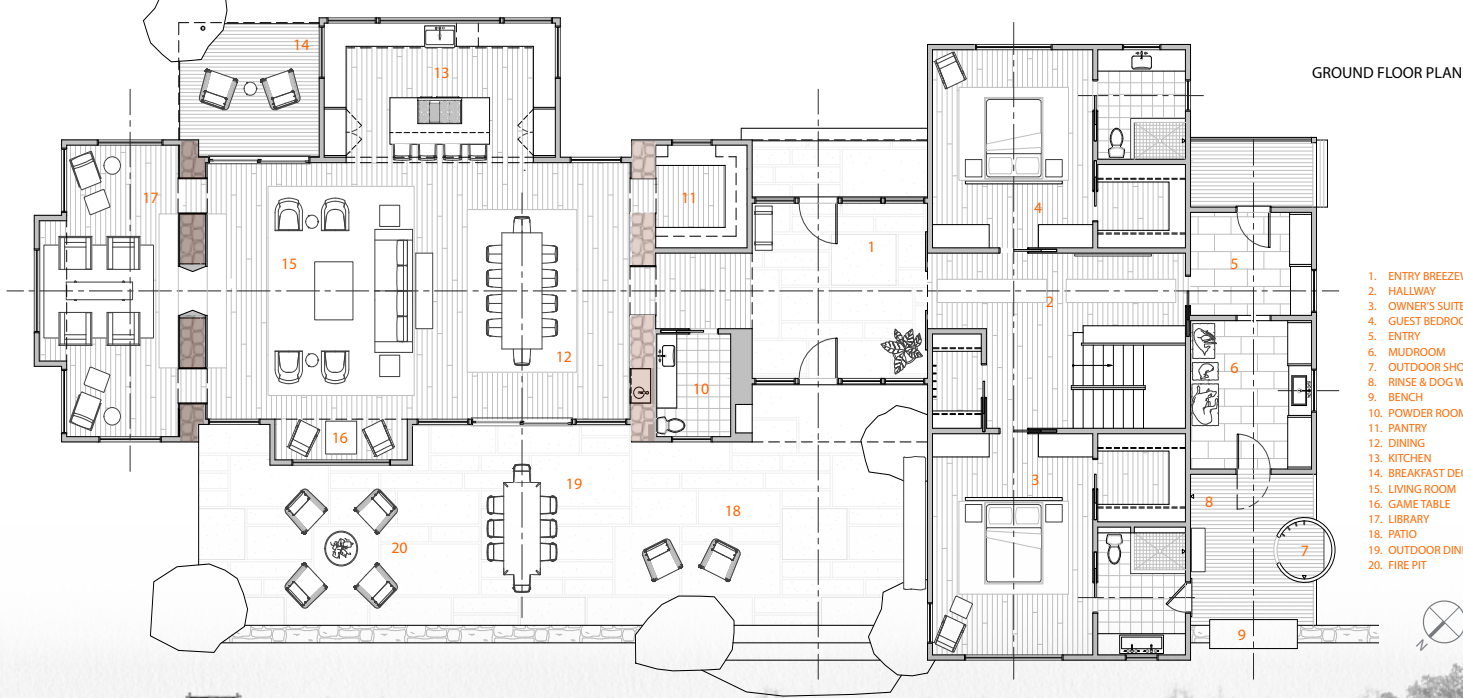
LIVING ROOM



DINING ROOM



LIBRARY/DEN



SOUTH ELEVATION



NORTH APPROACH



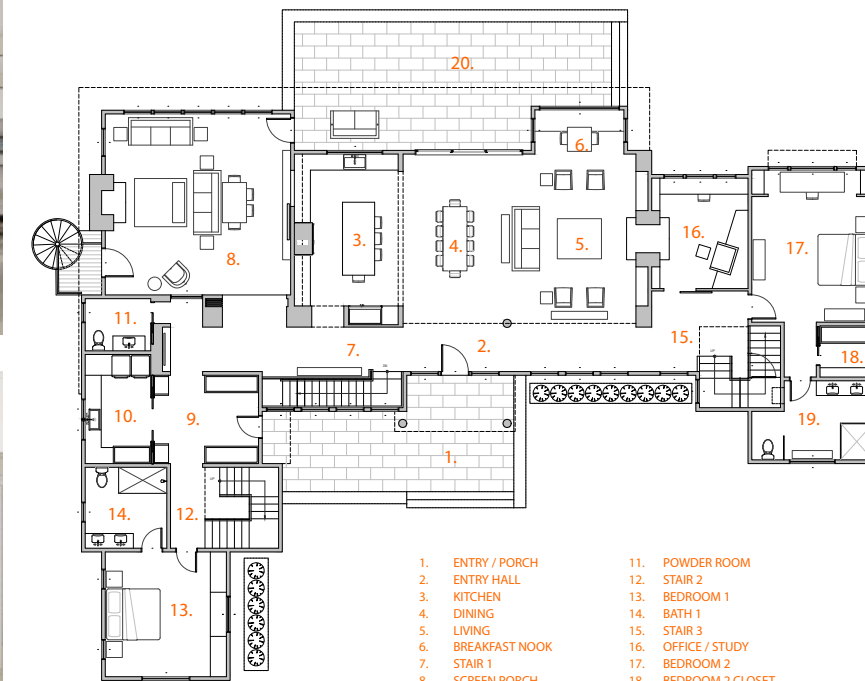
SOUTH ELEVATION



KITCHEN / DINING / LIVING ROOMS



INGLENOOK



GROUND FLOOR PLAN



APPROACH



NORTH APPROACH



VIEW FROM KITCHEN



NORTH SIDE RENDERING



PAVILION INTERIOR



ENTRY WAY



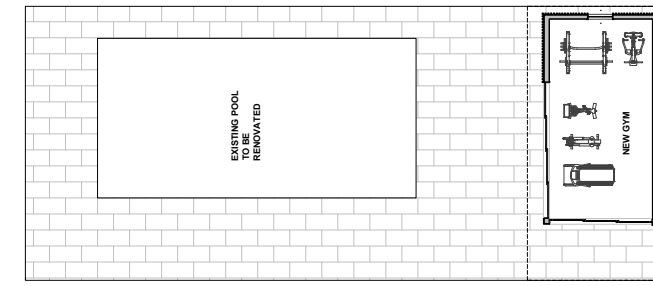
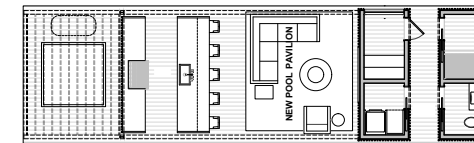
LIVING ROOM



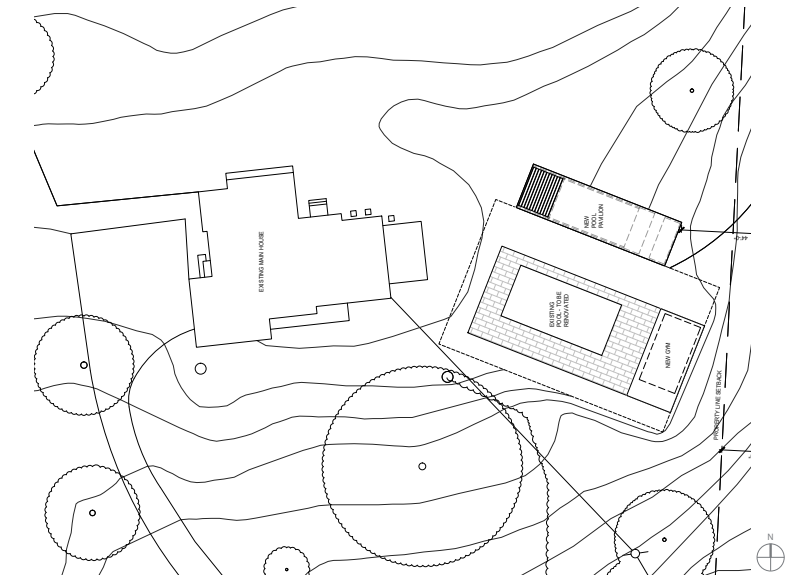
FAMILY ROOM



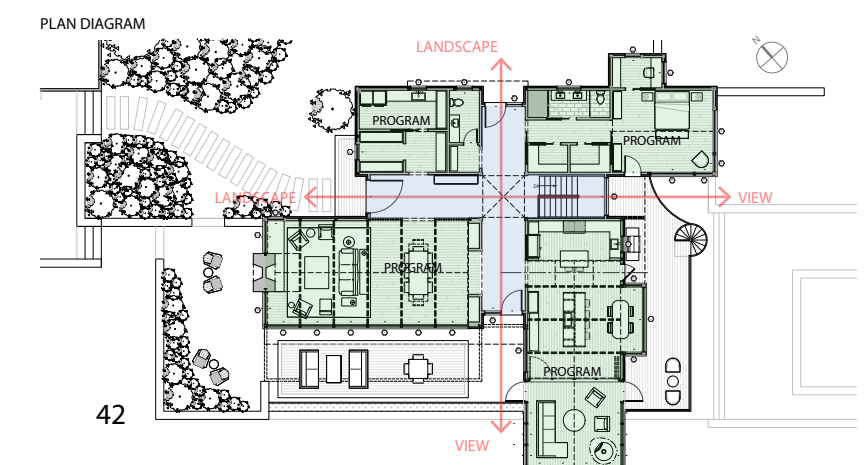
HALLWAY/SKYLIGHT



PLAN



SITE PLAN



PLAN DIAGRAM



SOUTH ELEVATION

VIEW FROM EXISTING HOUSE



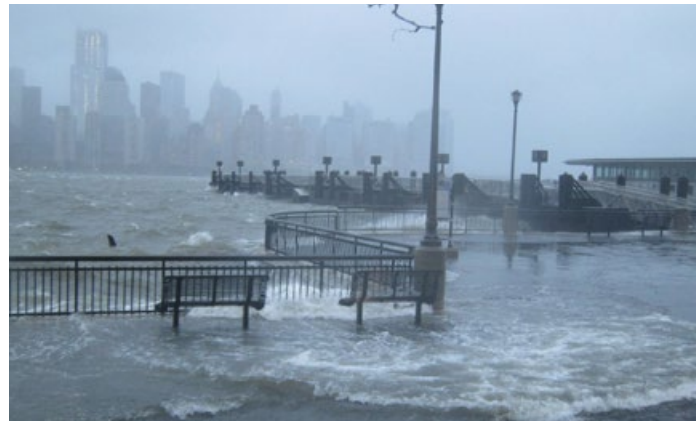


AERIAL PHOTOGRAPH: JERSEY CITY TERMINAL, 1941, FROM LIBERTY HISTORIC RAILWAY OF NEW JERSEY (www.lhry.org)

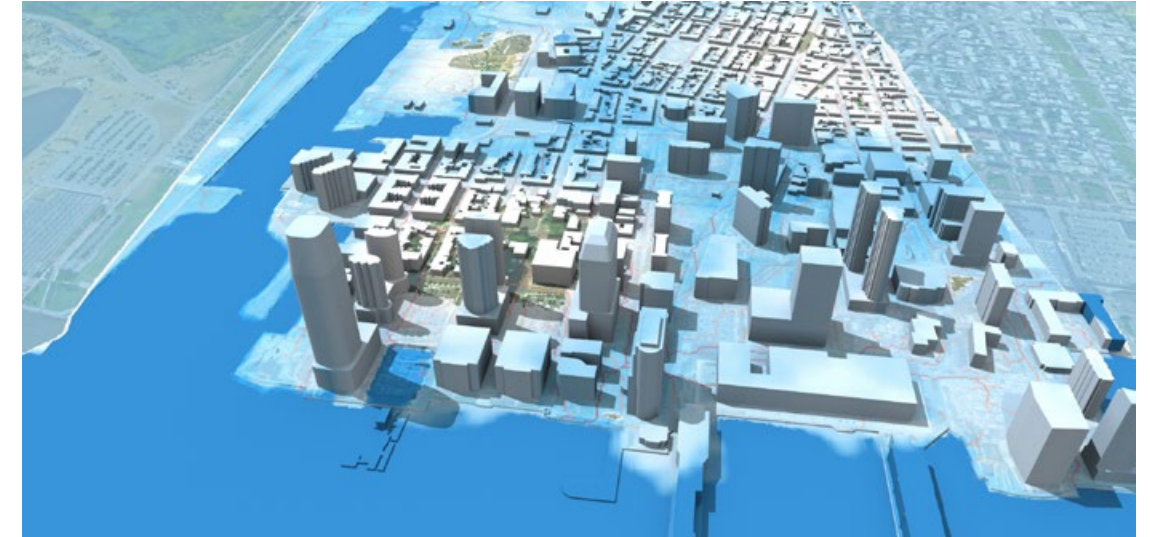
AERIAL PHOTOGRAPH: EXCHANGE PLACE, JERSEY CITY, 2010, PHOTO: <http://www.unitedstates-map.us>

In this elective course, students learned how to use ArcGIS to conduct a visual study of how a particular climate related issue could impact a community. For the final project, I researched flooding conditions for Downtown Jersey City and how the city could mitigate the adverse effects of storms similar to Hurricane Sandy in the future.

The opposite images (right side of spread) visualize a 'normal' flood scenario (top most image) compared to a super storm scenario, and indicates where surge entries occurred during the inundation caused by Hurricane Sandy (middle image). Also visualized, is how the extreme flood scenario changes once a levee is implemented at the river's edge (bottom image). The maps are meant to provide an accurate analysis of potential flood scenarios, but also bring the audience to consider; what portions of the city are being prioritized by building a levee on the edge of the river, and how do these structures alter our perception of the environment?

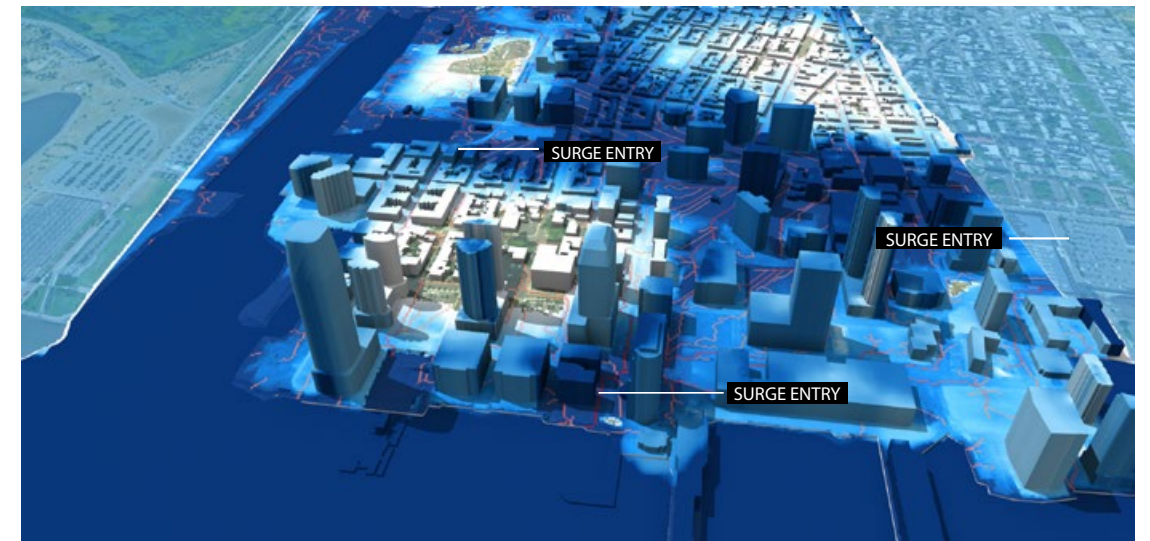


HURRICANE SANDY: DURING + AFTERMATH - JERSEY CITY 2012, JERSEY JOURNAL



VISUALIZATION 01: BASIC FLOOD MAP

FLOOD RISK



VISUALIZATION 02: HURRICANE SANDY FLOOD SCENARIO

INUNDATION



VISUALIZATION 03: EXTREME FLOOD SCENARIO WITH LEVEE AT RIVER EDGE

INUNDATION