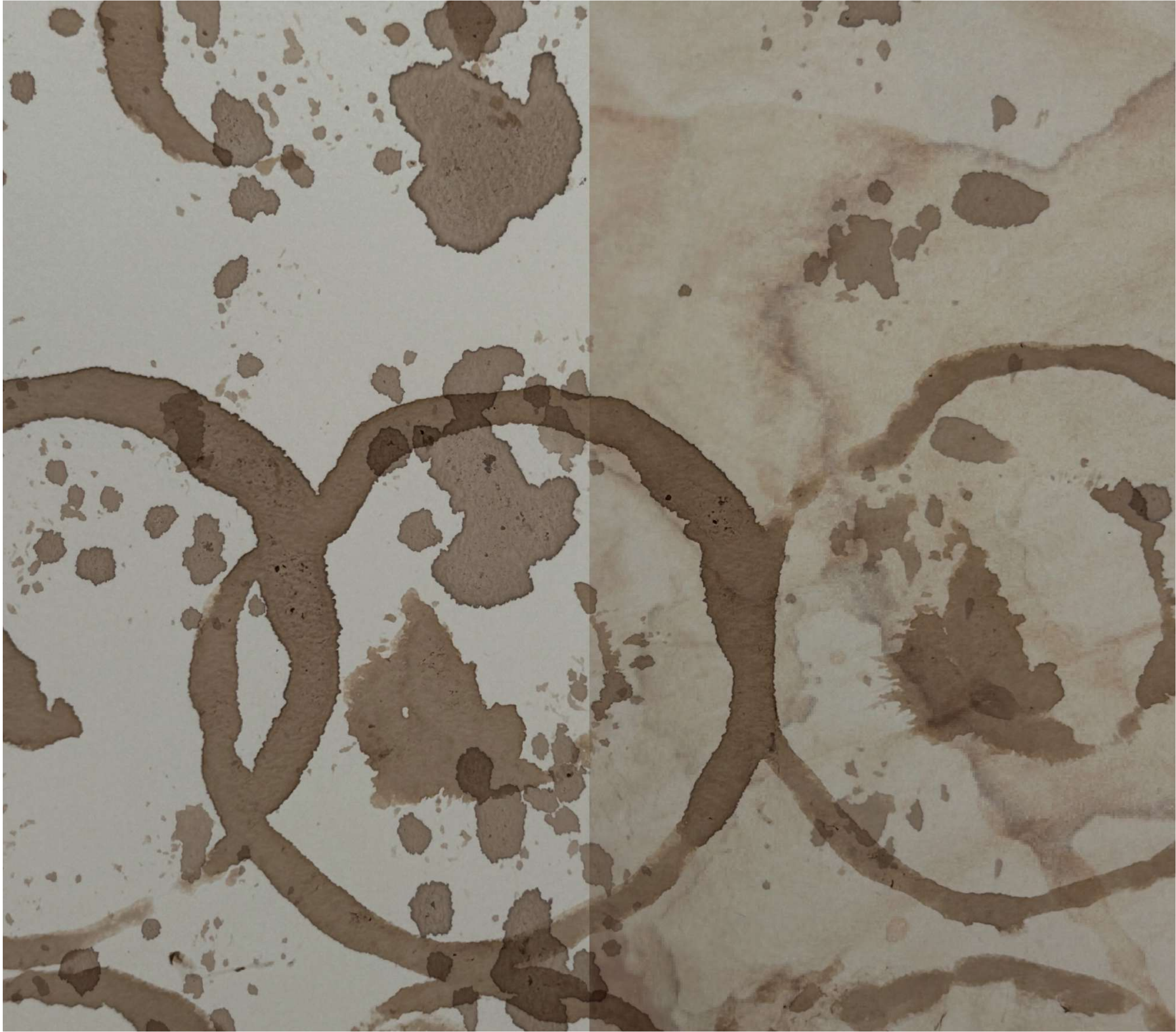


# Architecture Portfolio

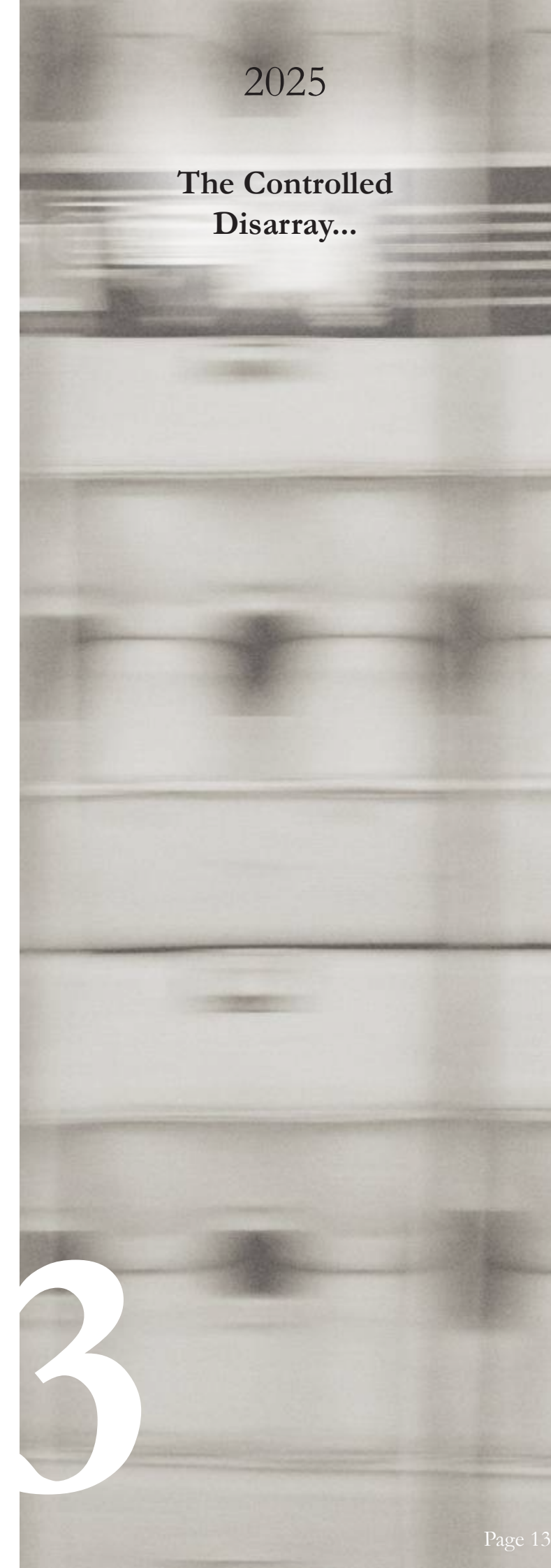
Rayne (Xiaoyu) Zhu

tel +1 (860)899-4390  
e-mail [xz3364@columbia.edu](mailto:xz3364@columbia.edu)  
location New York City, NY





# Contents





## Transmuting the Wound:

### A Spatial Intervention for the New York Public Library

This project explores the intersection of nature, culture, and divinity through an architectural intervention at the New York Public Library (NYPL). Grounded in the idea that climate change is both a material and cultural crisis, this project seeks to resacralize the built environment by reconnecting people with nature and uncovering the deep histories embedded in architectural materials.

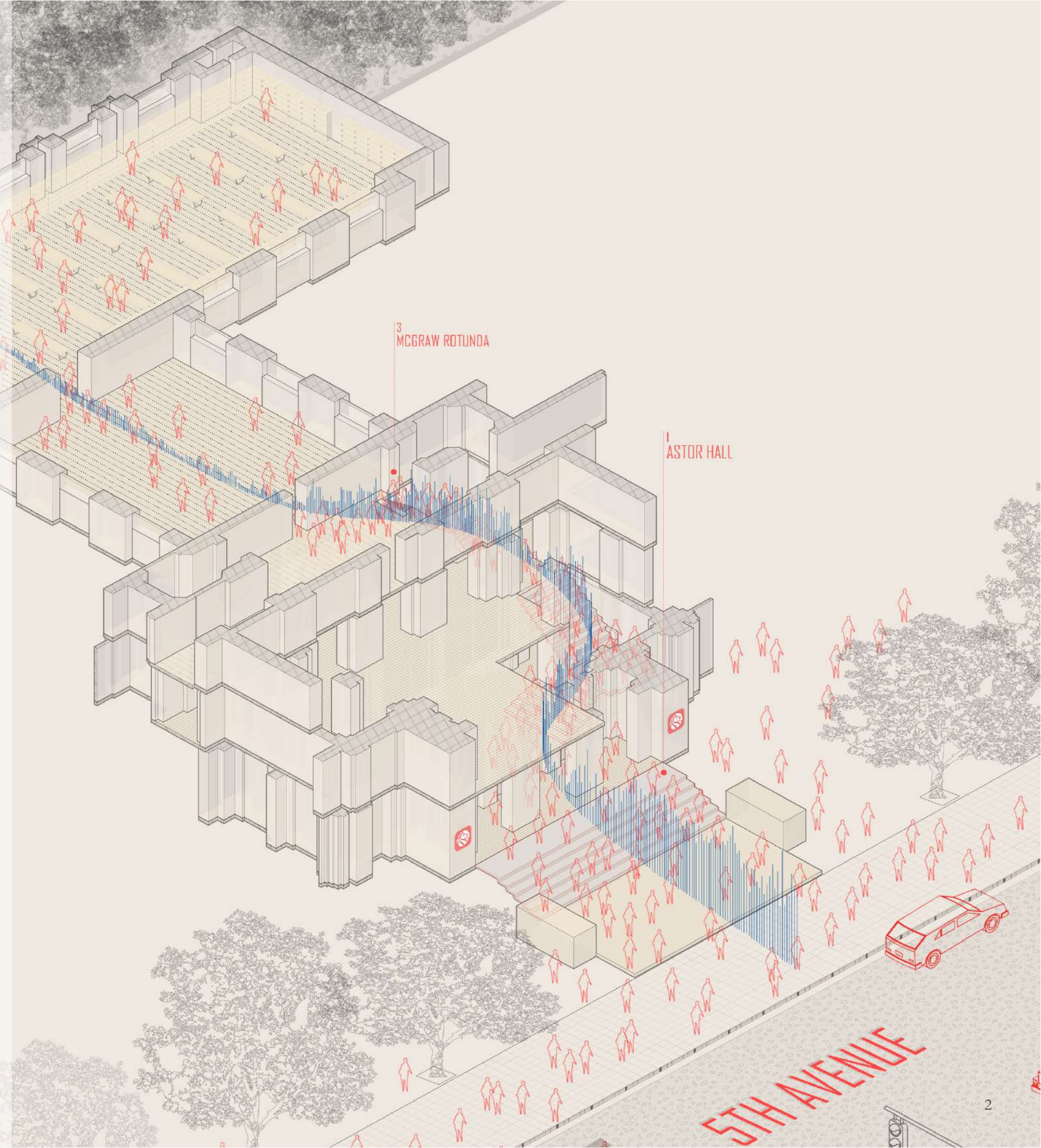
NYPL, an iconic institution, embodies the human pursuit of knowledge and the entanglement of natural materials with cultural heritage. Its Vermont marble structure traces a lineage of geological formation, immigrant labor, and craftsmanship. This intervention highlights these hidden narratives, reframing the library as both a repository of knowledge and a sacred vessel of nature and history.

Through immersive spatial experiences, the project invites visitors to engage with NYPL's material and ecological origins. A curated journey from the building's exterior through Astor Hall to the Rose and McGraw Rotundas enhances natural light, amplifies textures, and incorporates rituals that foster reflection. By using sensory engagement, the intervention creates moments of awe that reframe NYPL as a space of spiritual and environmental awareness.

By integrating performative and participatory elements, the design elicits reverence for the human-nature relationship. Inspired by spiritual traditions, it transforms a site of awe into a sanctuary for reconnection, reflection, and environmental healing, demonstrating how architecture can be a conduit for cultural and ecological transformation.

Project Type:	Intervention
Studio:	Nocturnal Medicine
Year Level:	MSAAD Summer
Studio Professor:	Larissa Belcic & Michelle Farang Shofet

Image on the right: Traffic and Sound Analysis of NYPL





## The Material History of the New York Public Library

The New York Public Library (NYPL) is not merely a repository of books; it is a landscape of material history, a temple where stone and wood tell the story of humanity's evolving relationship with nature. Its foundation is carved from the ancient schist, marble, and gneiss of Manhattan, remnants of deep geological time shaped by ice and erosion. Water, once channeled through the Croton Aqueduct, connected the city's vital circulatory networks, sustaining its inhabitants and shaping urban development. The library's white marble façade, sourced from Vermont, holds within it the labor and craftsmanship of immigrants, embedding their stories in its very walls. Inside, murals and furnishings reveal the ongoing dialogue between nature and culture, condensing centuries of material transformation.



Forest



Marble



Mountain



Quarry



Petrified Forest



Woods





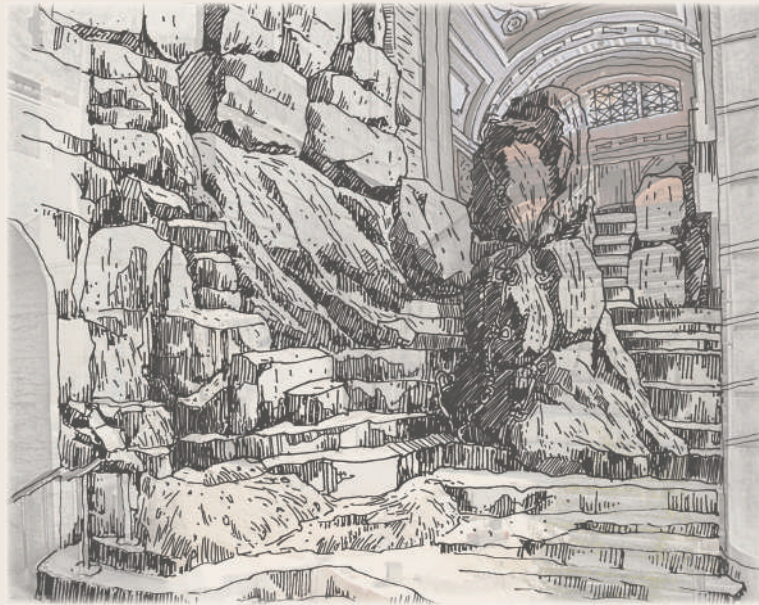
1. Urban Forest



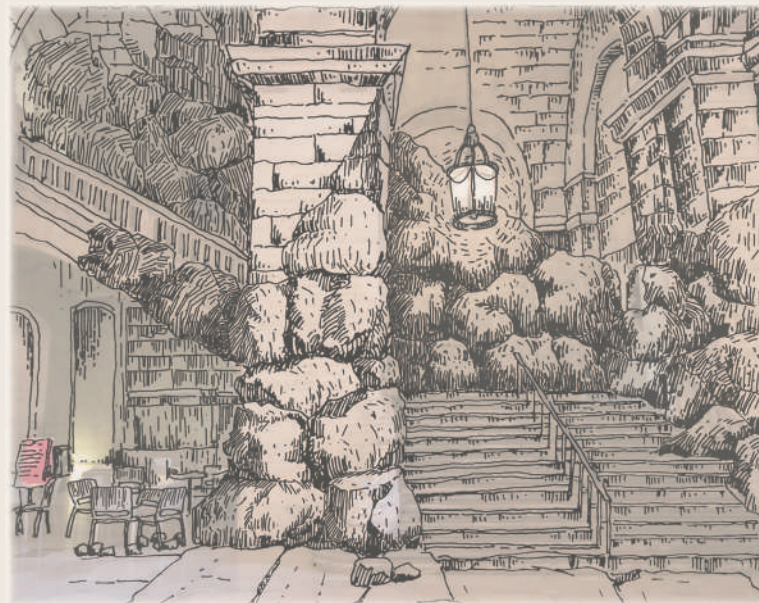
3. Marble Stair Hall



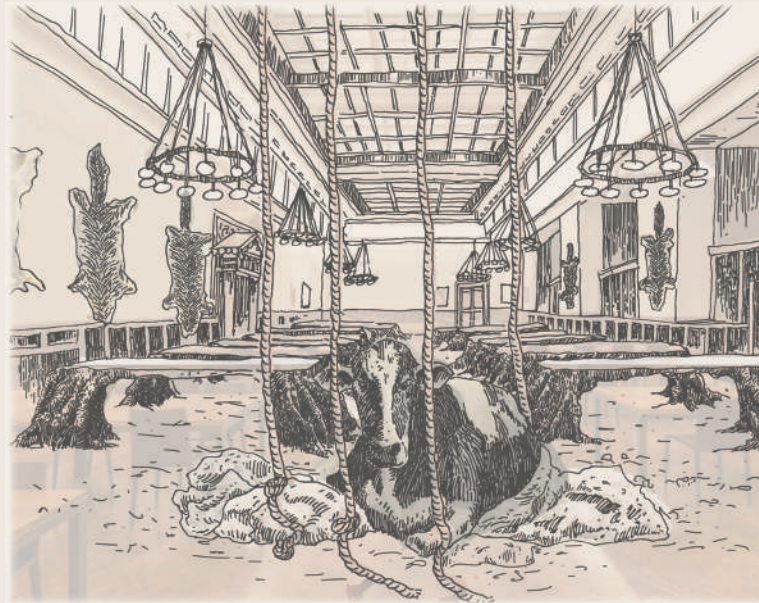
5. Solomon Reading Room



2. Marble Mountain



4. Marble Stair Hall Gradient

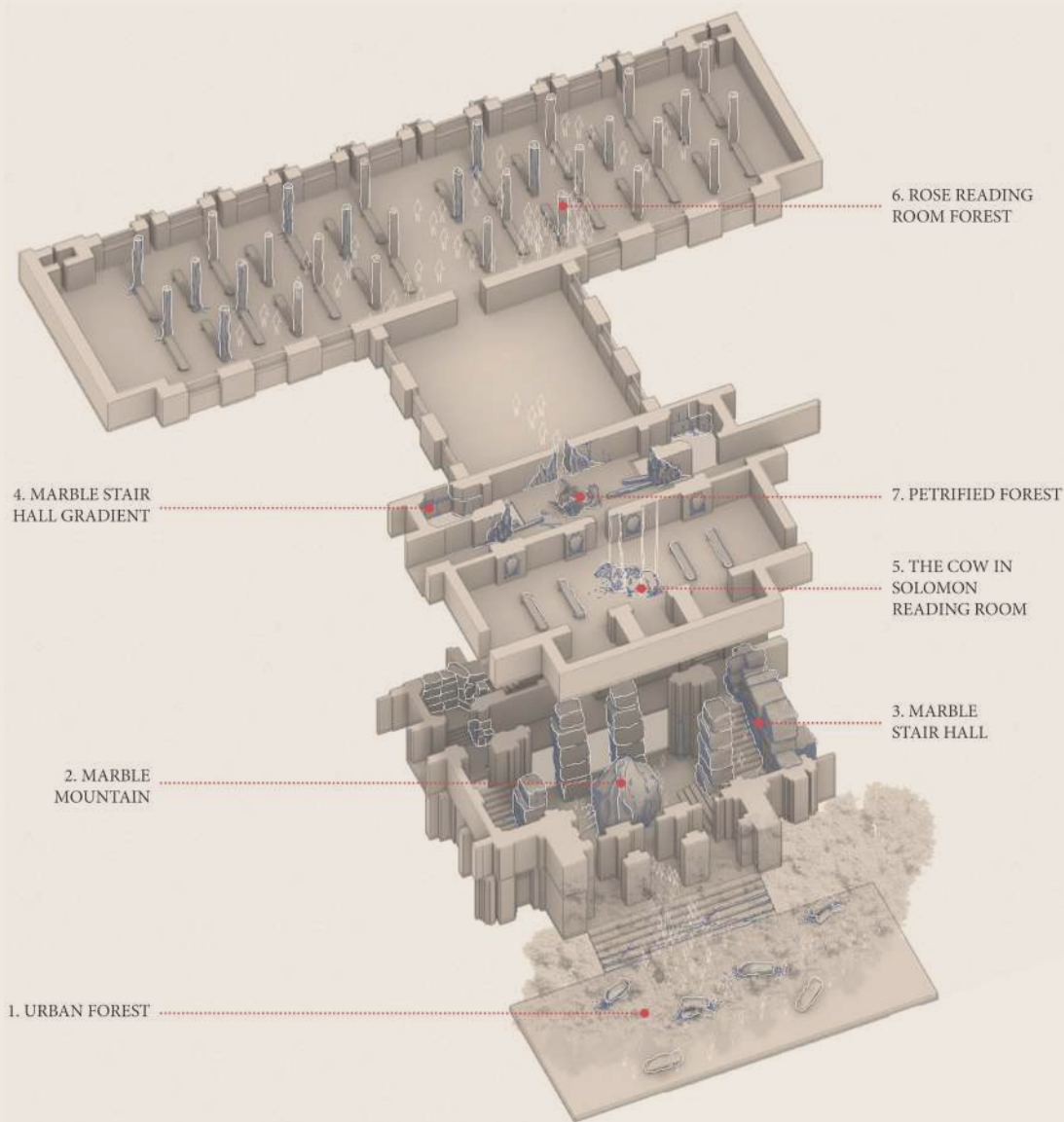


6. Rose Reading Room Forest

# The Sequence: A Return to Material History

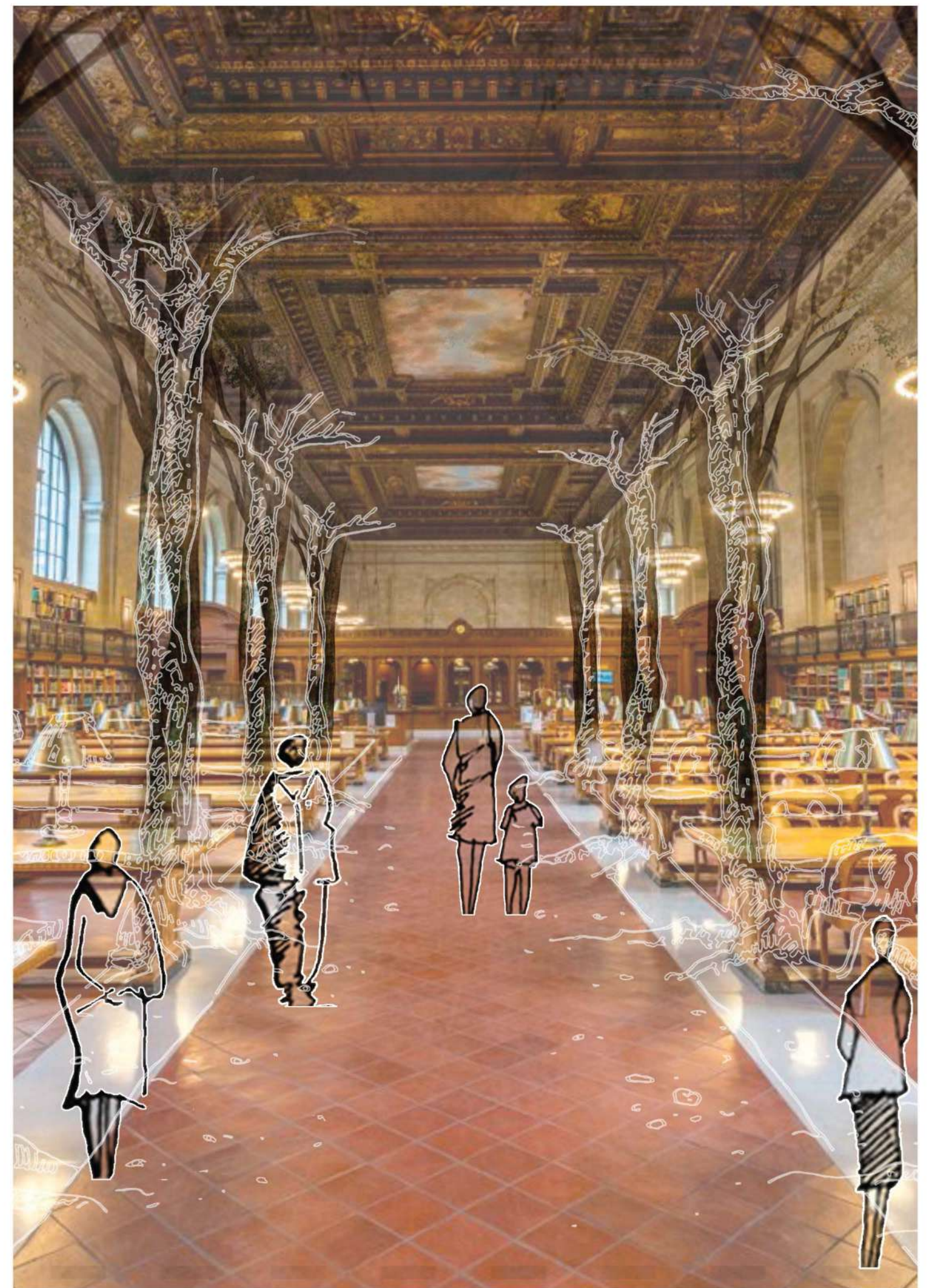
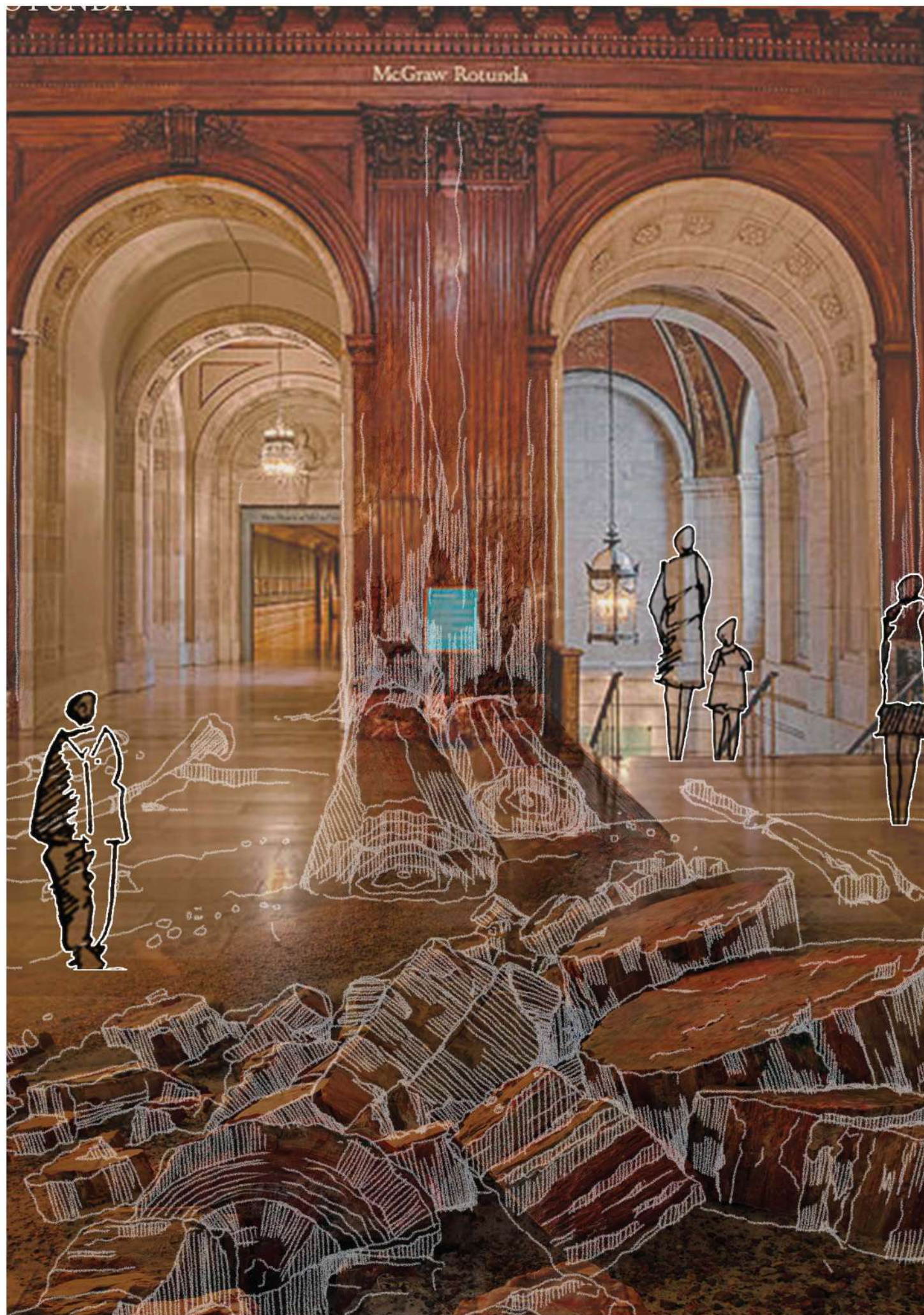
The intervention incorporates a series of imaginary landscapes throughout a crucial circulation experience in NYPL using the iconic construction materials, illustrating how the library is not only a temple for knowledge but also a ritual place for material history—it is made of mountains and trees. By weaving these landscapes into its architecture and circulation, the NYPL becomes a living monument that celebrates the symbiotic relationship between humanity and nature.

Encased by skyscrapers, it remains a testament to the intertwined forces of nature, industry, and knowledge, inviting us to contemplate our place within this ever-evolving urban landscape.



Proposed Axonometric









## Transmutting the Wound:

### The Installation

The installation, inspired by “Echoes of the Mind: The Library as Sanctuary and Temple,” seeks to transform the NYPL into an intimate and reflective journey. Visitors will engage in a sequence of guided experiences, blending material history with contemplative practices.

Sequence Instructions:

1. Upon entering, participants will take a disposable dropper filled with a customized perfume. This dropper should be held until reaching the center of the installation.
2. Visitors will pair up and take seats where books are placed. They will turn to bookmarked pages and read selected passages to each other in hushed tones.
3. After both partners have finished, they will transition counterclockwise to the next station, repeating the reading sequence.
4. Upon reaching the center, participants will pause for a minute to absorb the collective energy of the space and reflect on the question: “How does my heart feel at this moment?” No answer is required—only contemplation.
5. To complete the ritual, participants will drop the perfume into a central bowl before exiting the center and rejoining the reading sequence.

This experience fosters a deep connection with the library’s material essence and its role as a vessel of both nature and human introspection. The NYPL, through this intervention, becomes not only a space of knowledge but also a ritualistic environment where visitors engage with the history embedded in its stone and wood, embracing the journey over the destination.



## Echoes Beneath: An Urban and Architectural Intervention for Minetta Lane Theater

STTLMNT explores the intersections of architecture, modernity, coloniality, and sound. The project aims to challenge traditional architectural frameworks, questioning their Eurocentric foundations and their role in colonial expansion. It draws from theorists like Michel Foucault and Walter Mignolo to analyze how architecture and perspective emerged alongside European humanism and colonization.

The studio emphasizes embodiment and non-Western epistemologies, focusing on Indigenous knowledge systems that integrate sensory experiences with ecological relationships. Sound is a central theme, with students conducting field recordings and creating architectural interventions through soundscapes.

The project analysis work involves site-based explorations at Minetta Lane Theater, encouraging audience to rethink architecture as an evolving, responsive discipline through sound, movement, and engagement. The project incorporates soundscapes, embodiment, resonance, and deep listening as architectural interventions, which challenge architecture's traditional focus on permanence and order, instead embracing fluidity, temporality, and relational space-making. The project's ultimate goal is to unsettle the existing architecture of Minetta Lane Theater, revealing its hidden Minetta Brook, along with its histories, biases, and possibilities for transformation through alternative ways of seeing, hearing, and knowing.

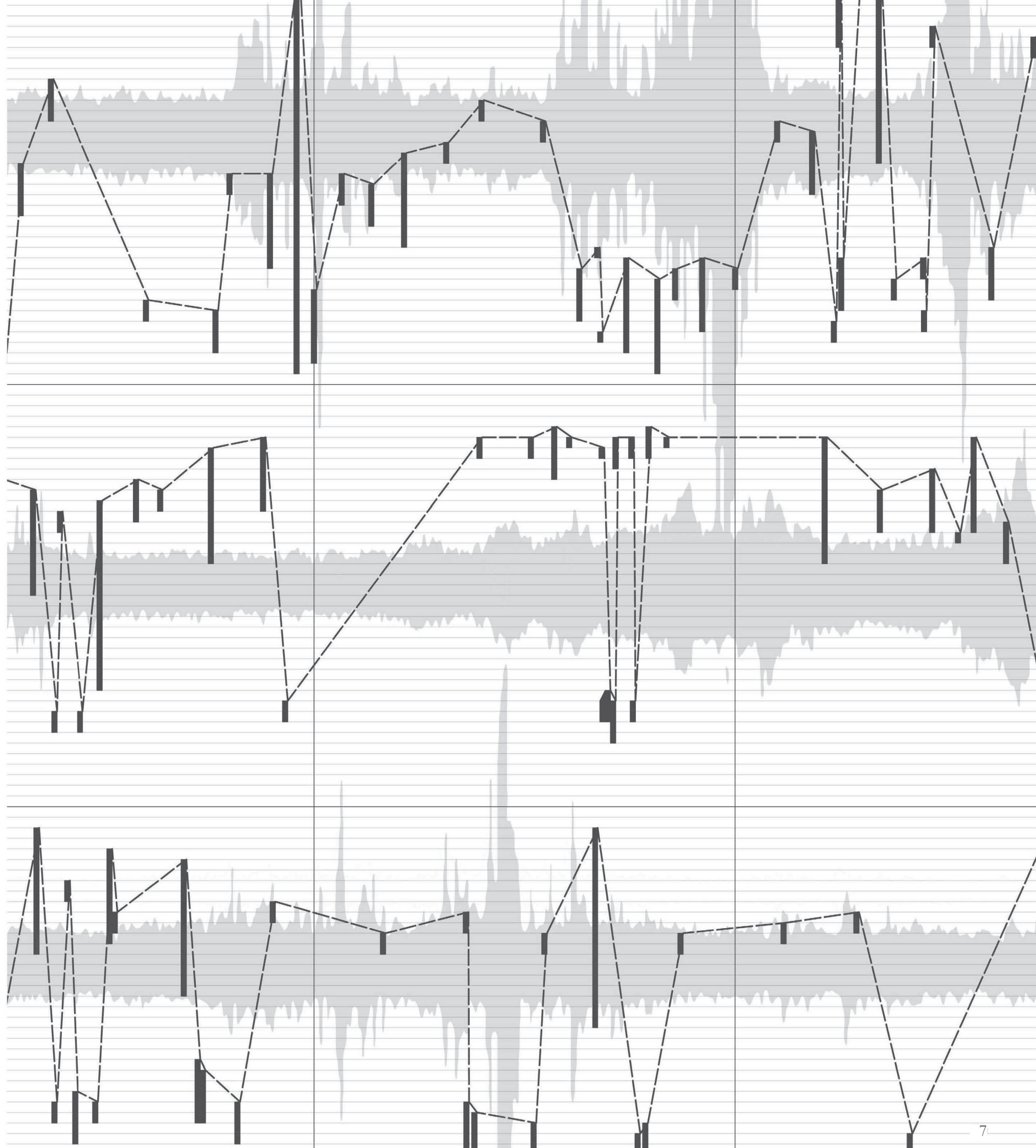
**Project Type:** Intervention

**Studio:** STTLMNT

**Year Level:** MSAAD Fall

**Studio Professor:** Mario Gooden

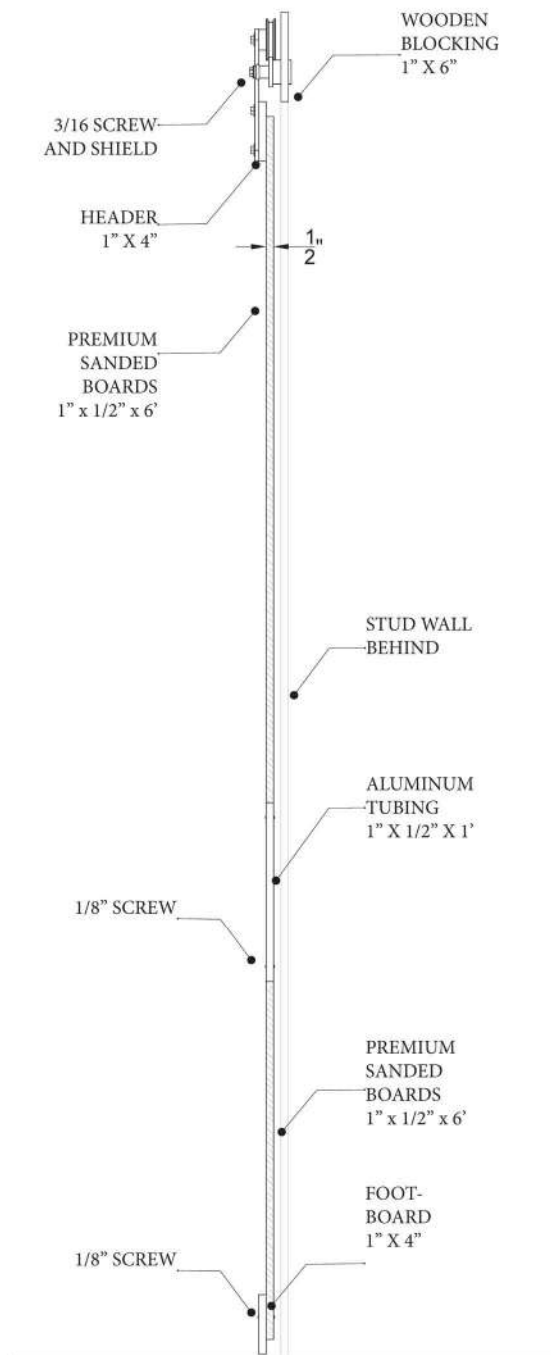
Image on the right: Music Notes for Site Recordings of Minerra Lane Theater





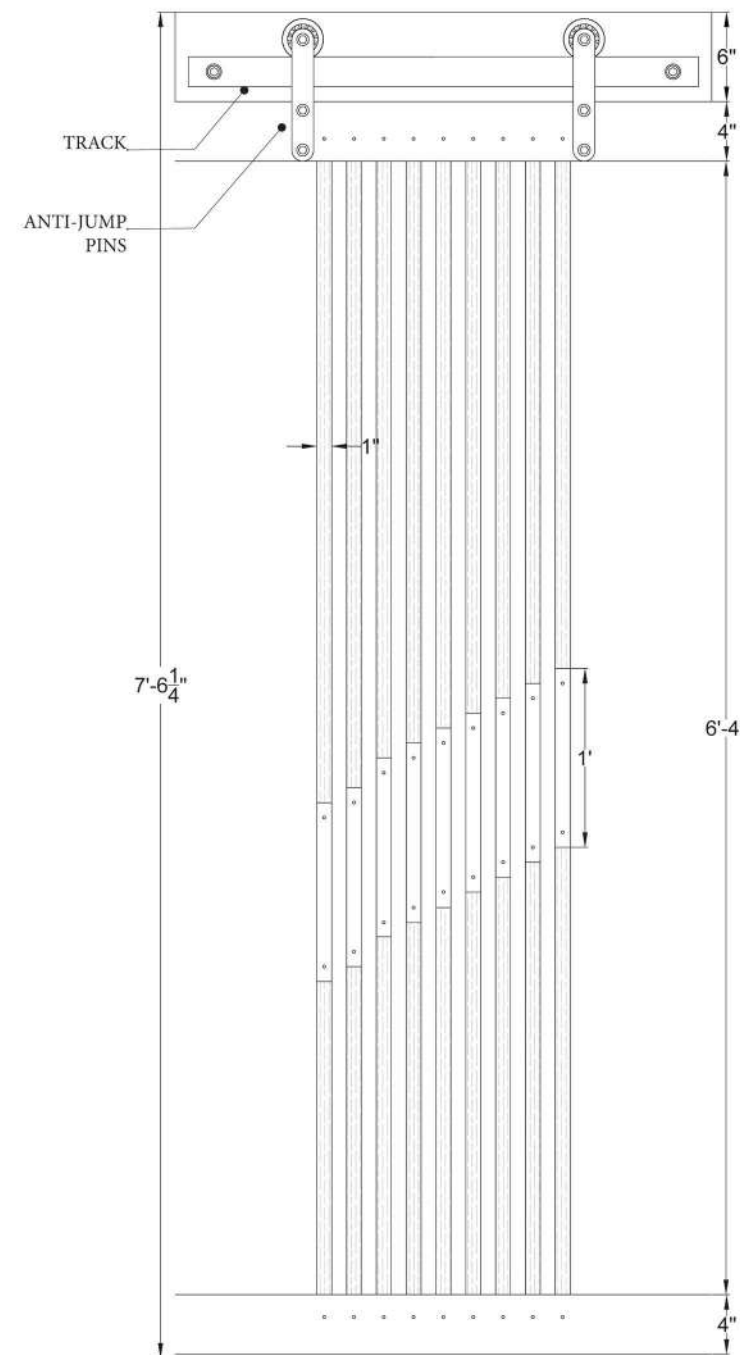
# The Site Recordings and Architectural Detail

Site recordings of Mt. Beacon were taken based on the three following prompts: Mountain, Tree, and Air. These recordings were later translated into mysic notes in 1-minute segments where the graphic notes represent different elements detected in the audio. The air note inspired a 1:1 architectural detail fabrication of a screen wall made of wood and aluminum tubes with openings, echoing the wind passing through.



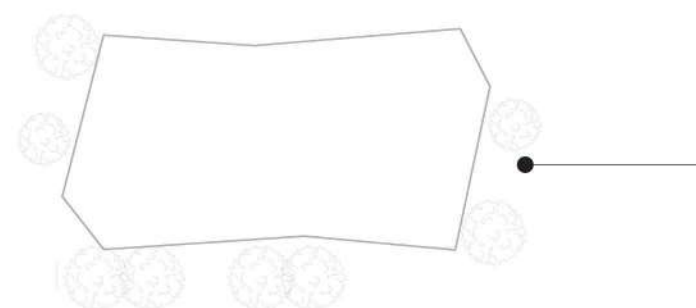
SCREEN PANEL SECTION DETAIL

SCALE: 1:4



SCREEN PANEL CONCEPT ELEVATION

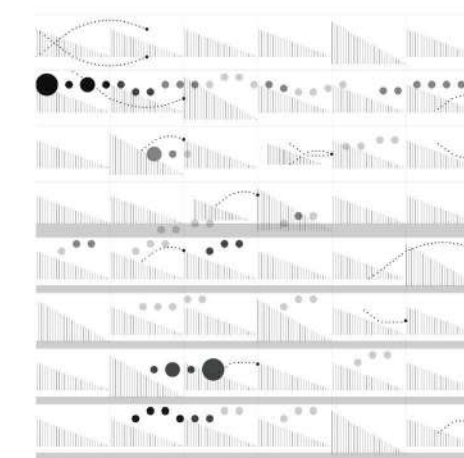
SCALE: 1:4



CONCEPT ROOM PLAN

## DESIGN CONCEPT:

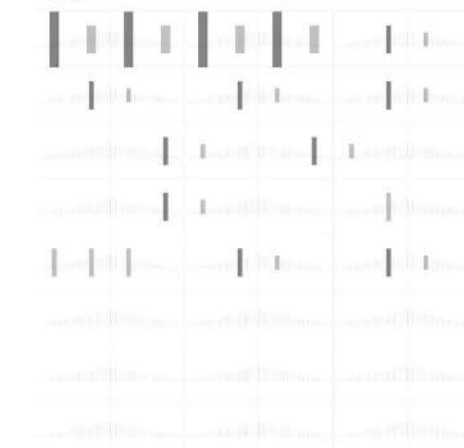
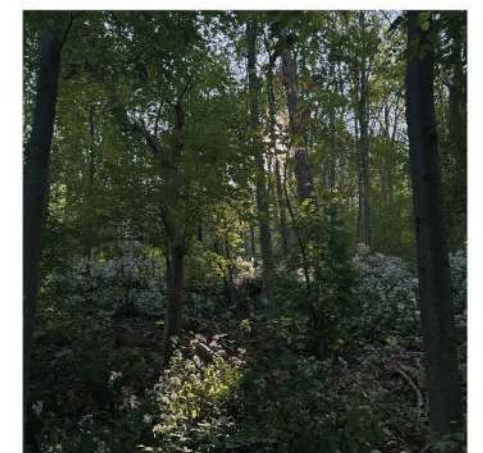
1. To amplify the information brought by air: acoustics, light, direction.
2. Series of screened walls made of wood and aluminum.
3. The aluminum tubing will be connected to the wooden strips using screws.



Mountain



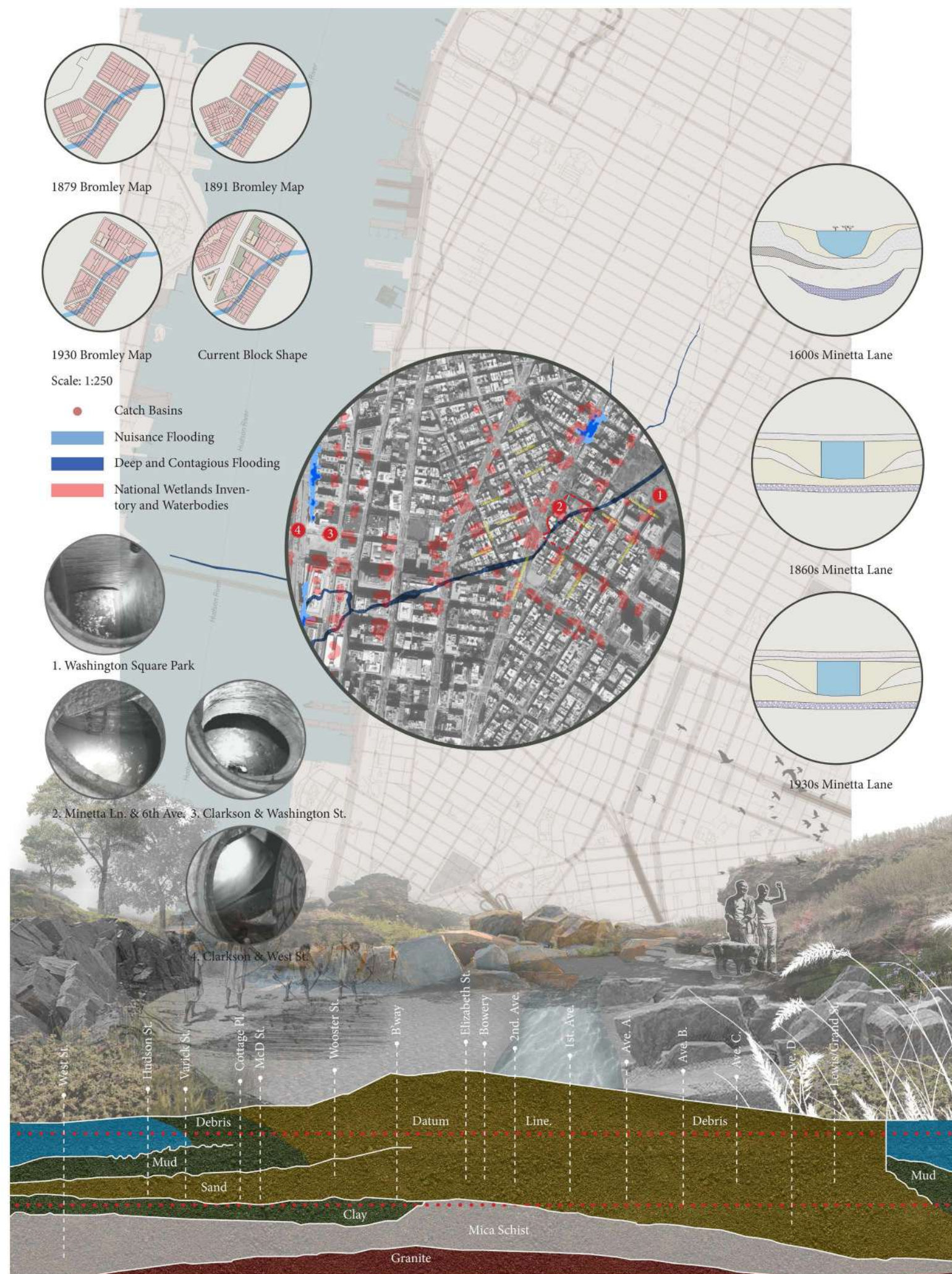
Tree



Air



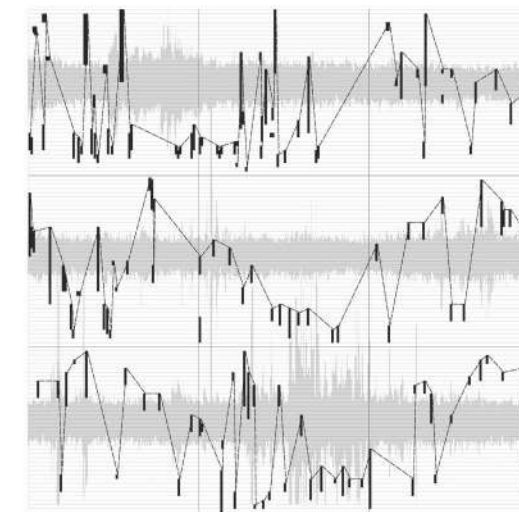




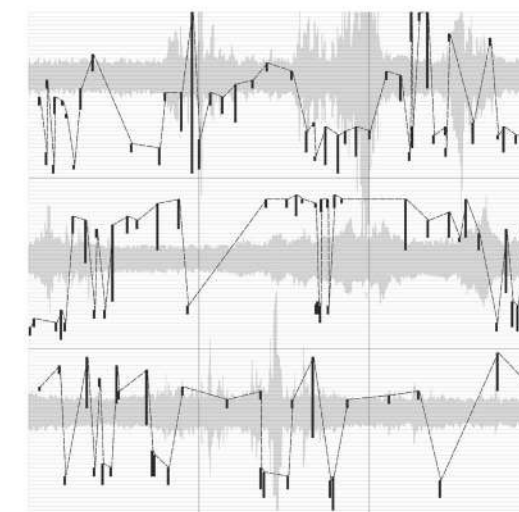
## The Hidden History of the Minetta Lane

Minetta Brook, a once-thriving freshwater stream, flowed through what is now Greenwich Village in Manhattan, shaping both the geography and history of the area. Originating near present-day 23rd Street and coursing southward to the Hudson River, the brook was a vital water source for the Lenape people, who lived harmoniously with the natural landscape. The name “Minetta” is believed to be derived from the Dutch word “mintje,” meaning small stream, reflecting the area’s colonial past. As New York City expanded, the brook was gradually buried beneath layers of infrastructure, beginning in the early 19th century. By the mid-1800s, urbanization and real estate pressures led to its full enclosure within underground sewer pipes, erasing its visible presence from the landscape. However, traces of the brook persist in the city’s fabric. Buildings along its historic path exhibit signs of unstable foundations due to the underground water’s influence. During heavy rains, Minetta’s ghostly presence resurfaces, causing unexpected flooding in basements and streets. Some historic maps and property records still reference the brook’s course, hinting at its forgotten role in shaping the city’s topography. Today, efforts to unearth and acknowledge Minetta Brook align with broader urban rewilding movements, seeking to reconnect New Yorkers with their ecological past. By restoring its flow or commemorating its history, the brook can serve as both a symbol of resilience and an opportunity to reimagine urban water management, ensuring that its legacy is not lost beneath the pavement of progress.

### 1. Minetta Lane Theater



### 2. Recording Note A



### 3. Recording Note B





## The Proposed Urban Plan: Unearthing Minetta Brook

This proposal envisions the unearthing of Minetta Brook to transform Minetta Lane into a functional, ecologically integrated waterway. By reintroducing the brook as a visible river, the project enhances flood management, strengthens urban hydrology, and fosters a deeper relationship between water and architecture.



1. Proposed Urban View A



2. Proposed Urban View B



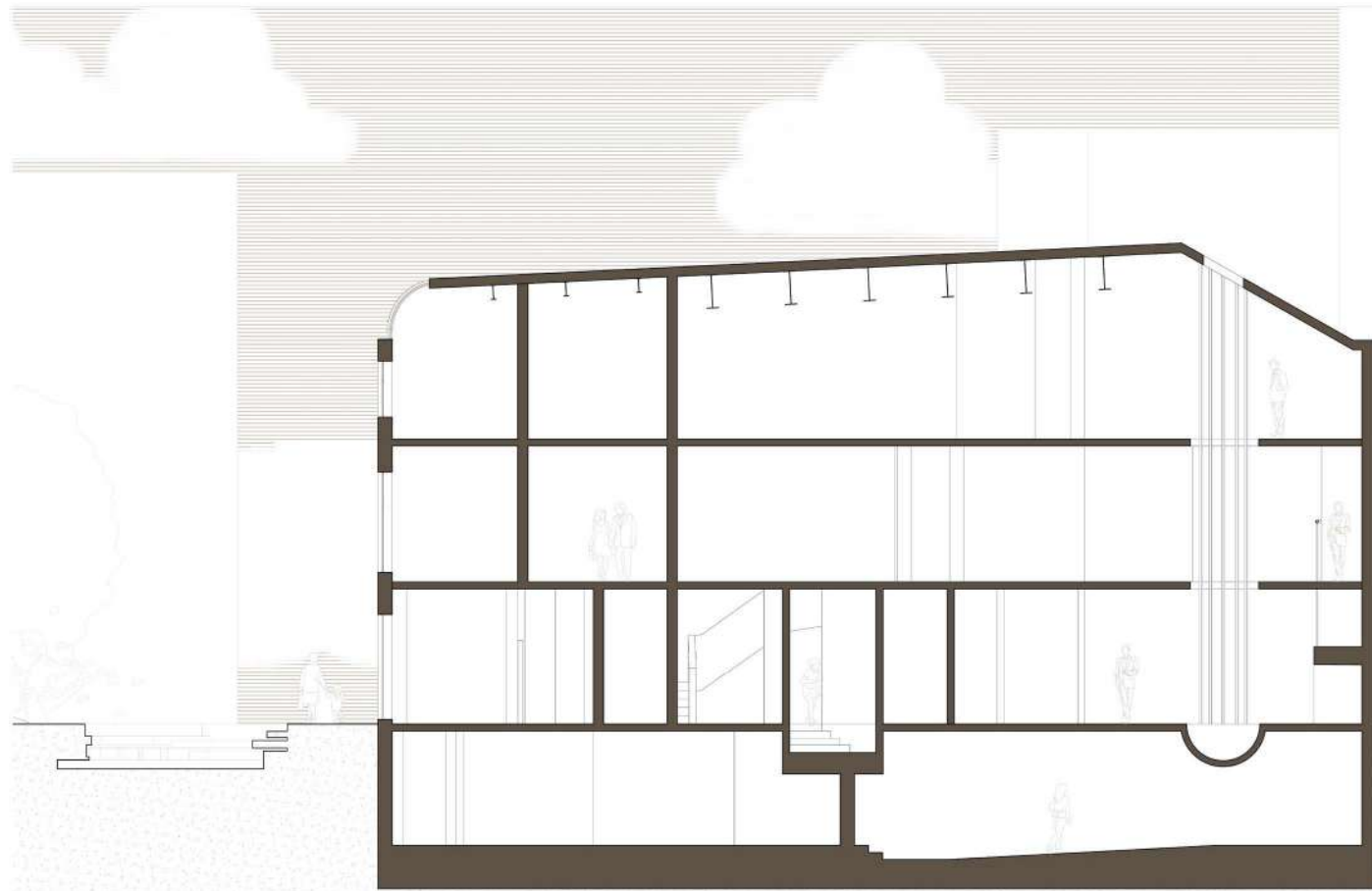
3. Proposed Urban View C

Minetta Brook, historically buried beneath Manhattan, can be reactivated as a controlled, surface-level stream flowing through Minetta Lane. A designed riverbed with permeable landscaping and retention basins will slow stormwater runoff, reducing urban flooding. Green infrastructure, including bioswales and wetlands, will filter pollutants, ensuring cleaner water as it integrates with the city's hydrological system.

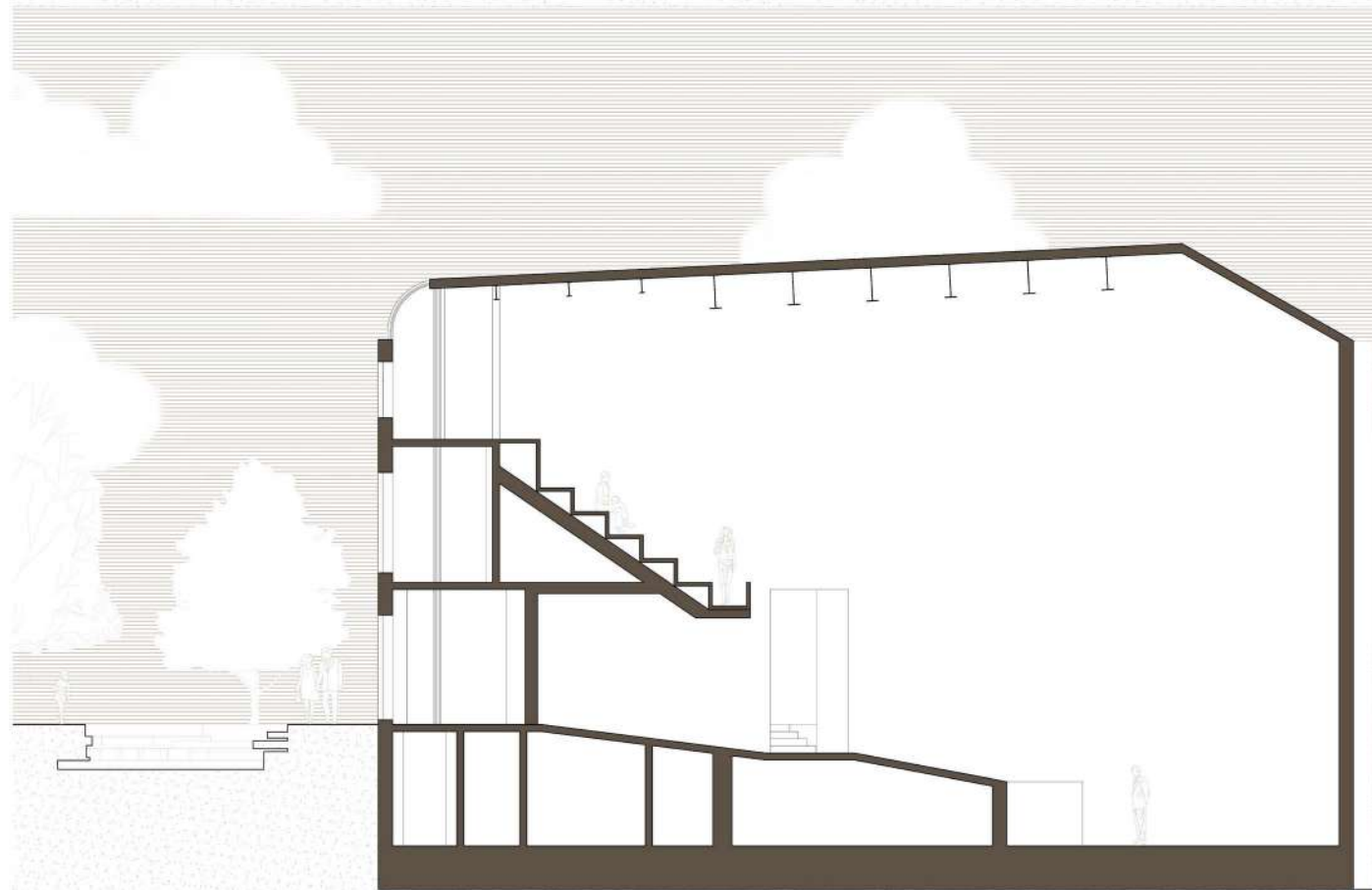
The river will introduce biodiversity, inviting native flora and fauna back into the urban core. Public spaces, such as floating walkways and river-edge plazas, will foster community interaction. This project also aligns with climate resilience strategies, mitigating extreme weather impacts while reviving a lost natural feature.

By unearthing Minetta Brook, this proposal redefines urban water management, transforming Minetta Lane into a living river corridor that reconnects nature, people, and architecture.

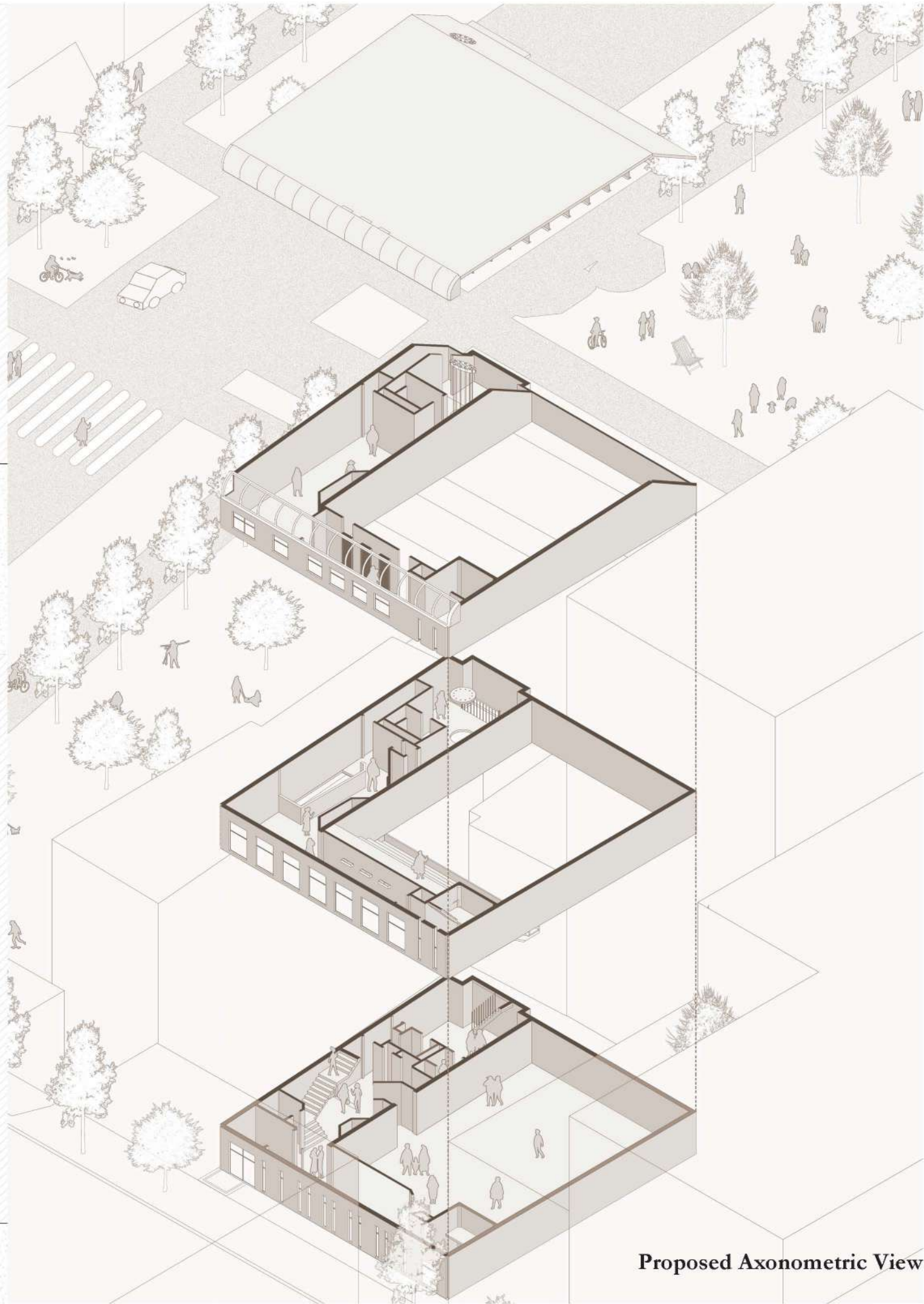




Building Section A

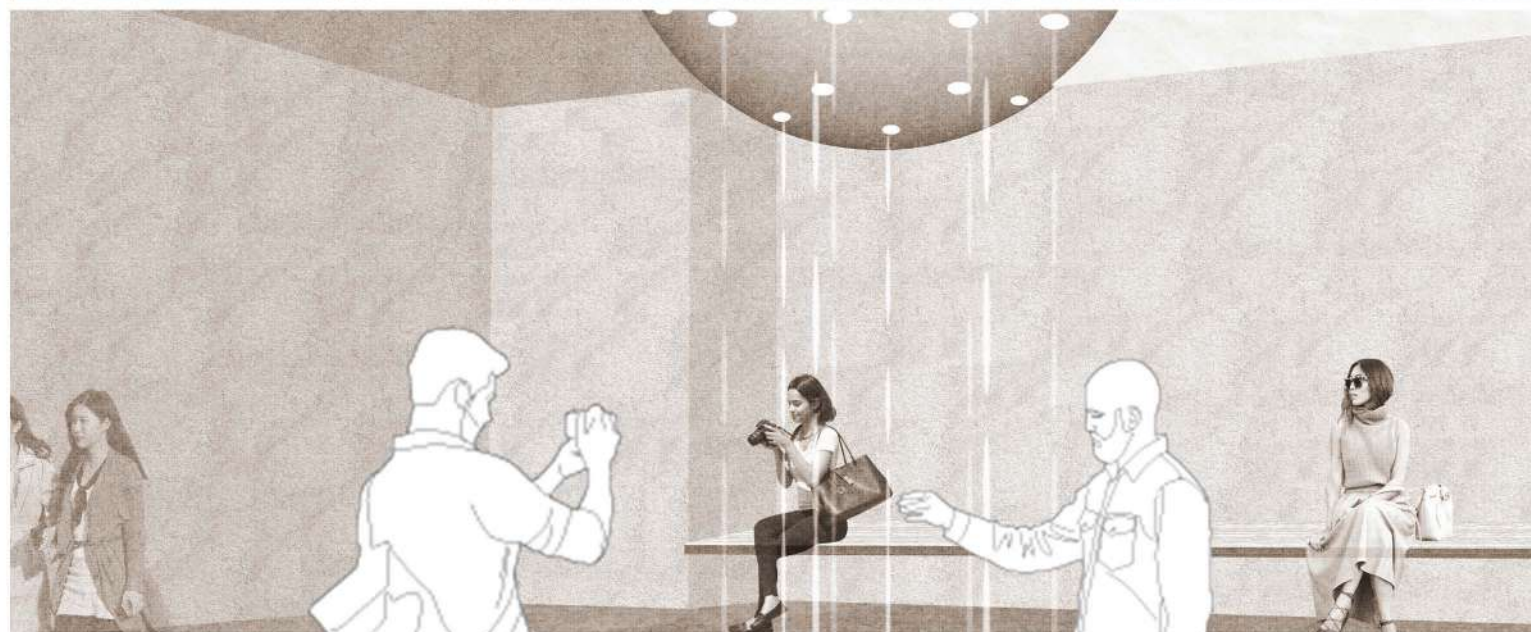


Building Section B



Proposed Axonometric View





## The Proposed Intervention: Bringing the Brook in

Echoes Beneath particularly explores the layered histories of Minetta Lane Theater and its relationship with the buried Minetta Brook, using architectural intervention to bridge natural history, urban transformation, and public engagement. Once a vital resource for the Lenape people and later a defining feature of a 19th-century African-American community, Minetta Brook has been gradually erased beneath the modern cityscape. Through design strategies that integrate rainwater management, sensory storytelling, and ecological restoration, this project aims to reconnect the theater with its natural and historical past while addressing contemporary urban challenges like flooding.

The intervention introduces skylights and suspended glass water channels that collect rainwater, allowing audiences to witness and engage with water as it flows into the building. A subterranean water sanctuary beneath the theater provides a contemplative space where visitors experience the sound and movement of water, echoing the brook's forgotten presence with guidance from a series of ghost lights. Additionally, an enhanced urban streetscape incorporates green infrastructure to mitigate flooding and reimagine Minetta Lane's historical relationship with water.

By making water both a functional and poetic element, Echoes Beneath transforms Minetta Lane Theater into a space where history, nature, and urban life converge—turning forgotten landscapes into immersive, living narratives.





# 3

## The Controlled Disarray...:

### A MAKERGRAPH Book

Led by Ada Tolla and Giuseppe Lignano, MAKERGRAPH seeks to encourage students to think outside the box of architectural design and practice to explore from within. Every week, students are required to complete part obsession and part construction. Each obsession and construction spread will contribute to a final printable book about individual self exploration. My personal focus is on the contradiction between my seemingly controlled facade and my messy habits at times, hence all materials used for my construction are collected through my consumption. This duality of personality, as well as aesthetics, is expressed through the work. A briefing about the book is as follows:

This book is my contradiction.

The part of me who arranges my shopping bags by sizes.

And the part who throws 10 random ingredients into a pan at midnight and calls it dinner.

The rituals—stacking, labeling, cooking, and printing—aren't just compulsions. They're me surviving. They're love letters to the parts of me that needed a little shelter.

So thank you. For holding space for what's been stacked, and for what spills a tat.

For honoring both the control and the collapse.

May we all find containers—literal or otherwise.

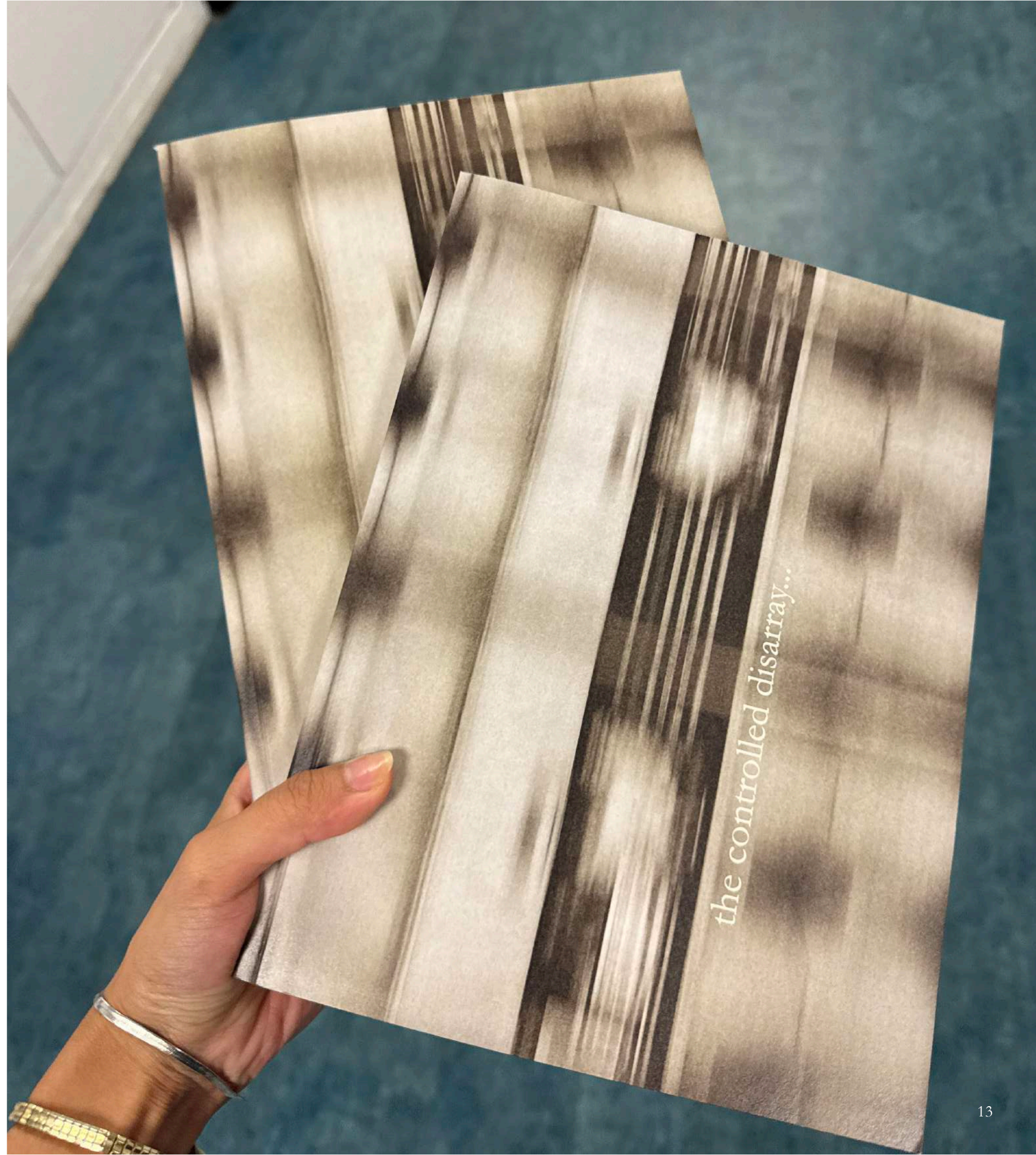
Project Type: **Print**

Studio: **MAKERGRAPH**

Year Level: **MSAAD Spring**

Studio Professor: **Ada Tolla & Giuseppe Lignano**

Image on the right: Traffic and Sound Analysis of NYPL







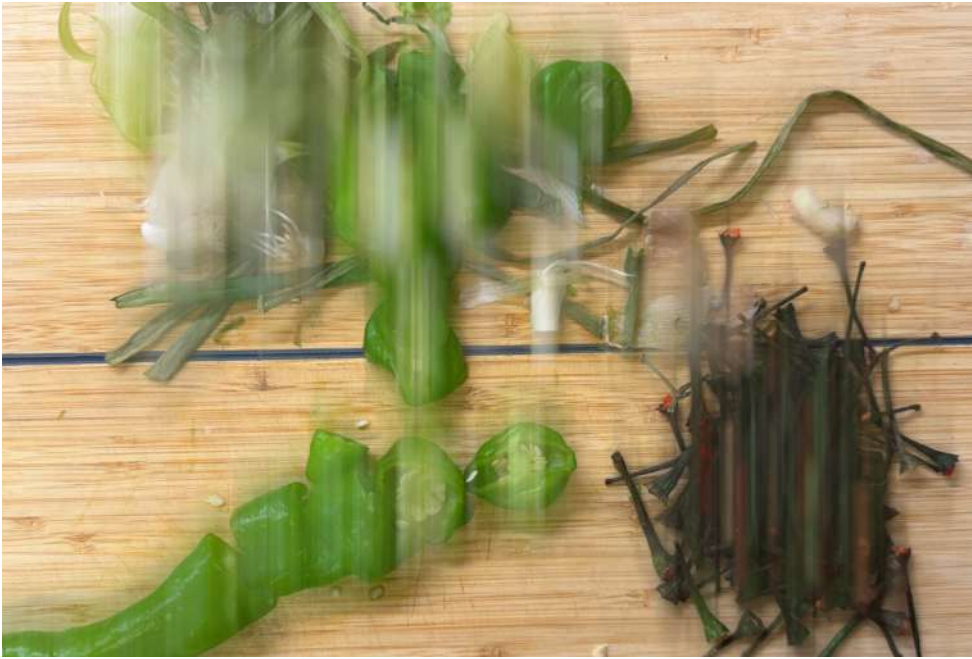
Chapter 1

Links

"...I am working against my own illusions."



No because how else would you organize your pantry...?



I am a self-diagnosed OCD patient. I say self-diagnosed because of a lifetime of avoidance, and probably due to the lingering effect of my Chinese father's obsession to anything remotely related to mental health growing up. He kind of just took my silence while I playfully stacked books by size as a sign. "I taught her to be that clean and organized."

I have always been extremely opinionated, and judgmental if you may—but never loud about my opinions. I learned to be rational and rigid at a very young age, partly due to genetics, and partly to an upbringing that prized discipline over absolutely anything. I like to think of myself as a well-informed person with carefully crafted, well-formulated thoughts—but I rarely bother to share them with anyone outside the room people I talk to regularly. Even at 25, I still speak at a volume that is probably best suited for NPR whisper segments, yet whenever I go home, I am still asked to "talk less" because, back home, people do not care much for volume or opinions.

But this is not a political statement. And I repeat: this is not a political statement. Otherwise, we would have to dig into 5,000 years of societal progression, Confucian values, and why eye contact during family dinner still feels like an act of rebellion. Honestly, who has the time or emotional bandwidth to unpack generations of tradition and subtle shade posed around with the steamed fish and the shared spoon?

Probably not me. I avoid that kind of self-emotional excavation by compartmentalizing my pantry storage bins and contemplating what color label tape best suits my light and dark soy sauce bottles. Therapy advice? Instagram accounts once convinced me I had an anxious attachment style because I spiraled like a freckling tomato when I do not get the attention I crave from people I like. But I actually might just be more avoidant than anything. I leave people on "delivered" for days, let arguments mature in silence for weeks, and my go-to conflict resolution line is, "I'm not sure what to say to that."

Sure, I think I'm a big empath because all my friends treat me as a free therapist for absolutely anything—but in reality, I may not be as emotionally there as I imagine. Especially considering that my voice still does not rise above the ambient sound of a refrigerator at 2 a.m. And yet, despite the anxiety and chance of truly connecting with people, I feel a strange openness alphabetizing spice racks or stacking soda cans into a tiny monument in my fridge.

You just will not understand the feeling knowing that curries comes after chili powder but before white peppers.

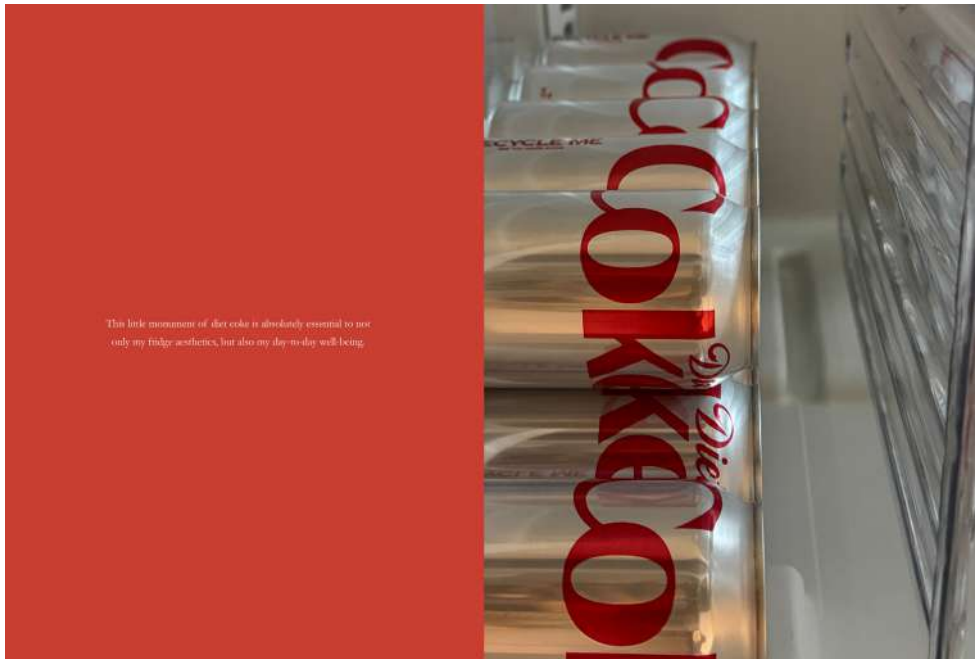
I have learned to channel my need for control—not into shouting into the void, or, dare I say it to my dad, confronting "generational trauma"—but into labeling the void and filling it neatly under "V." You could say I have embodied the kind of inner peace that only arrives when your Gmail inbox reads "No new mail 0/0." Anything else and I start twitching—just like that cursed Grasshopper script that has been broken for 42 minutes and counting.

While some people find healing through therapy, religion, or yoga retreats in Bali (which, yes, I did for two weeks in 2023 because John Roberts told me so), I simply open my doors and look at my somewhat color-coded bathroom and neatly folded sweaters. That is my church.

So yes, I am mostly quiet, somewhat emotionally constipated, and a little intense about my pet preferences—but this book is an amalgamation of my various forms of peace. What others might call "boring," I call calm and absolute beauty. Ideally, this peace—this peace—will live forever in a clear, stackable Muji container labeled "2025."

Top shelf. Far right.

Sometime in Garamond.



This little monument of diet coke is absolutely essential to not only my fridge aesthetics, but also my day-to-day well-being.



Putting them back from dish washer is probably one of the most therapeutic things I can think of 10/10. Highly recommend.

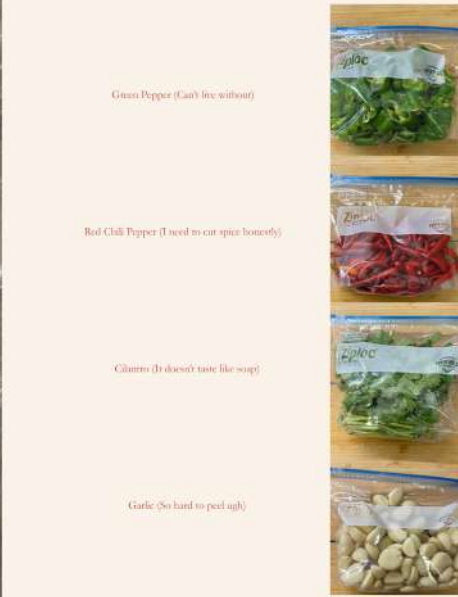


Green Pepper (Can't live without)

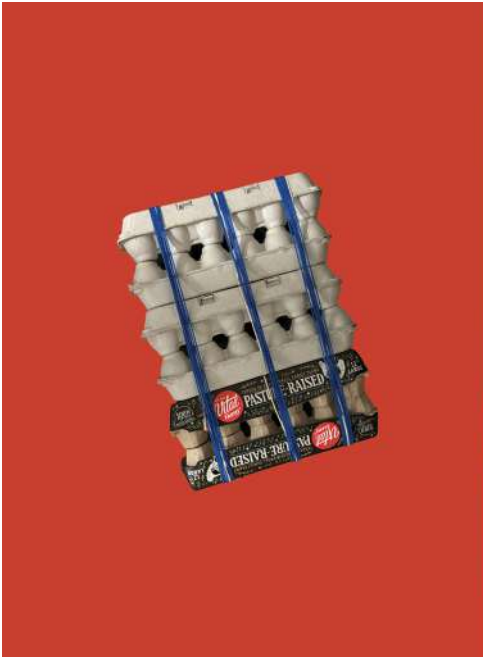
Red Chili Pepper (I need to cut spice honestly)

Chamros (It doesn't taste like soap)

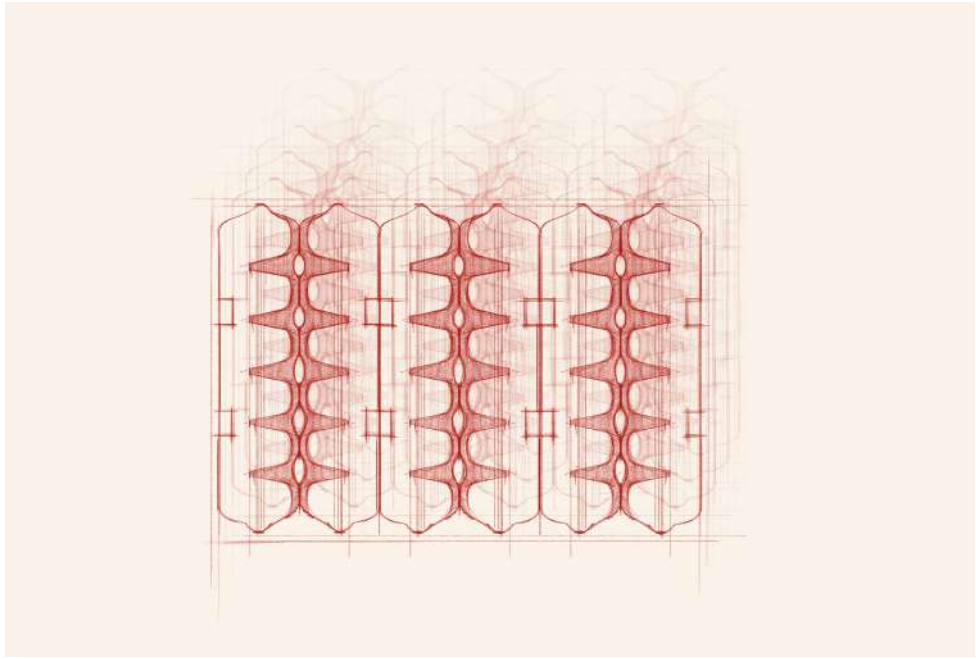
Garlic (So hard to peel ugh)











Sometimes I think it is just easier, you know? To dig into a drawer full of who-knows-what instead of looking into whatever emotional whirlpool is waiting to suck me under. It's not like I don't see it—I do. It's there, this big, messy, tangled-up pile of feelings I don't touch, but then there's this drawer, or that closet, or those books that aren't going to sort themselves, right? Right.

So then I am, knee-deep in the mess of my apartment this week, and maybe the week before, and it's like, why not make it all neat? Line up the books and plates, sort the records while making sure that the socks can *un*not thrown away because of *studio*—whatever words. It feels good. It's like, for once, everything is where it's supposed to be, everything makes sense. No surprises. I know where everything is, and everything is in its place. Perfect, peaceful, controlled. Unlike the big mess in my life right now.

And yeah, I call it OCD, my little joke because it's not really what it is, but it feels like it is.

It's like this shield, this thing I have that keeps me safe from having to deal with the big stuff. The deep stuff. The kind of stuff that doesn't just go away if you ignore it, but here I am, doing just that. Organizing instead of acknowledging. Labeling instead of confronting. Avoiding.

The truth? It's definitely avoidance, pure and simple. It's easier to say I'm just being thorough, meticulous, whatever, than to admit that maybe I'm scared. Scared of what it means to really dig into the mess inside. **Scared of what I'll find, what I'll feel, who I'll be on the other side of that confrontation.** So I keep sorting, keep tidying, because as long as I'm doing that, I don't have to think about the rest. It's surely not just about being organized or clean—it's about creating order where I can control it, because the emotional landscapes within me are too unpredictable, too fragile with the potential for upheaval. And maybe part of me knows it's not the best way to handle things, but it's my way. **For now. And always.**

It's the thing that keeps me going, that keeps me sane. It's my chaos, my control, my way of keeping the rest down away from me and everything neat and tidy, boxed up nice and safe. **At least on the outside.**

Time freezes a bit whenever I stand in front of those grocery store racks, whether that's Trader Joe's, Whole Foods, Winco, Market, Hmart, or honestly just some random farmer's market. It's just me and all these choices, these rows and rows of products neatly lined up. There's something calming about it, something deeply satisfying about seeing all those cans and boxes and bottles aligned perfectly. It's a visual break from the chaos, a world of consensus order I can step into whenever I need to escape. I can control what I focus on. I can decide whether the soap can go by flavor or by brand, whether the cereals should be organized by fiber content or sugar levels. It's trivial, sure, but it's a distraction, a momentary lapse from having to think about anything heavy or hard. It's like each item on the shelf offers me a little pause button on this annoying life.

And it's not just about making decisions on what to buy—it's about the process, the scanning, evaluating, organizing thoughts, making sense of the display. It mirrors how I organize everything else, a way to externally process the internal. Each choice, each movement is deliberate, a small assertion of control in a world that often feels like it's spinning wildly off its axis.

Maybe that's why I linger longer than most in front of these racks and why I always end up being in someone else's way. It's not addiction, not really. It's more about slowing myself down in this moment, this structured environment where I can pretend that everything can be as orderly and predictable as these shelves. It's a coping mechanism, a way to putter myself in the grocery store, with its aisles of perfect rows, I find meditation and momentary peace from the relentless anxieties that I can never seem to get rid of completely.

