

a collection of investigations

# structure public Public for Who? | Core I | Amina Blacksher Exploring a Cycle | Core II | Regina Teng This Placement is Mine | Adv IV | Alessandro Orsini private Pocket Home | Core III | Benjamin Cadena Central Cool | Adv V | Philippe Rahm Skin ReStore | Adv V | Philippe Rahm s e l f Body at Rest in Motion | ADR II | Genevieve Mateyko Woman is Home | Adv VI | Lydia Kallipoliti

Throughout my time at GSAPP, I have discovered, through active curiosity, my passion for research as a designer. Curiosity is not only what drives me as a designer, but it is something innately human that has catalyzed every moment of ingenuity we have ever experienced.

*public* space is often experienced as in between space, it is the space between where we wake up, where we work, and where we sleep. however it is entirely essential, it is akin to the underscoring of the movie that is our lives. It belongs to everyone, and without it the story would have no context.

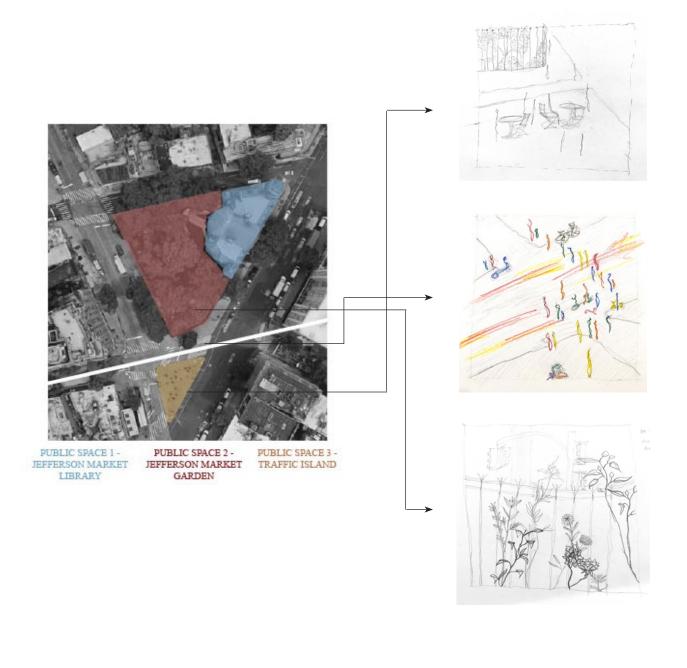


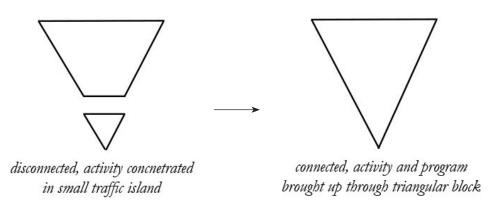
#### public for who?

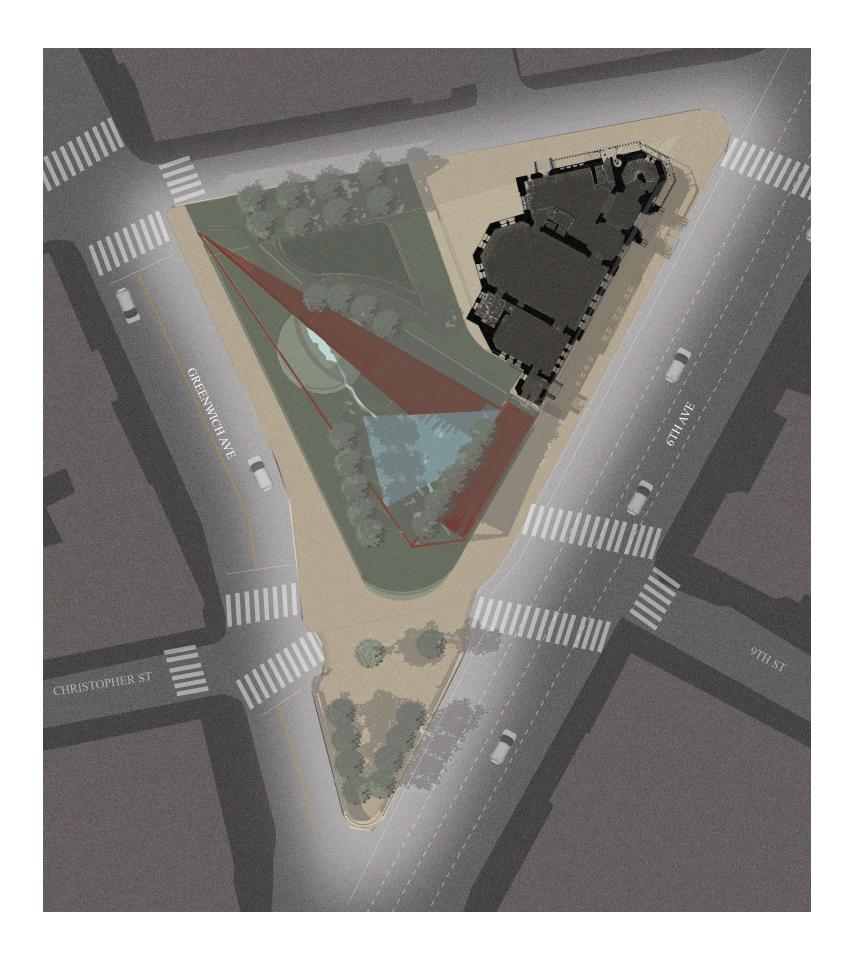
Between 6th Ave and Greenwich Ave, there is a traffic island with chairs and tables. Sitting on this island for a few hours, I noticed how activated this small space was, witnessing people take a seat, stop and chat, and then get up to leave again before someone else inevitably took their spot. Across the intersection, I noticed a lot of lush foliage tucked behind a 7-8ft tall iron fence. I thought, "It's such a shame that garden is private." After some hours of sitting and sketching, I decided to walk up Greenwich Ave to get a better view of the garden, when I realized this was not actually a private garden, however the architectural elements made it seem so. The intervention thus was an attempt to not only de-privatize the presentation of the space, but to also bring the engagement from the traffic island, up into the garden. The garden, Jefferson Market Garden, is in the footprint of what used to be a women's penitentiary. Before it was demolished in 1974, it persecuted women who were caught in lesbian relationships, who presented as queer, or who were active in civil rights movements. The intervention formally memorializes these women and their wounded identities through a wound like pool. The wound "cries" through the garden, its tears irrigating the herb garden and providing an ambient sound to immerse visitors from the busy intersection.

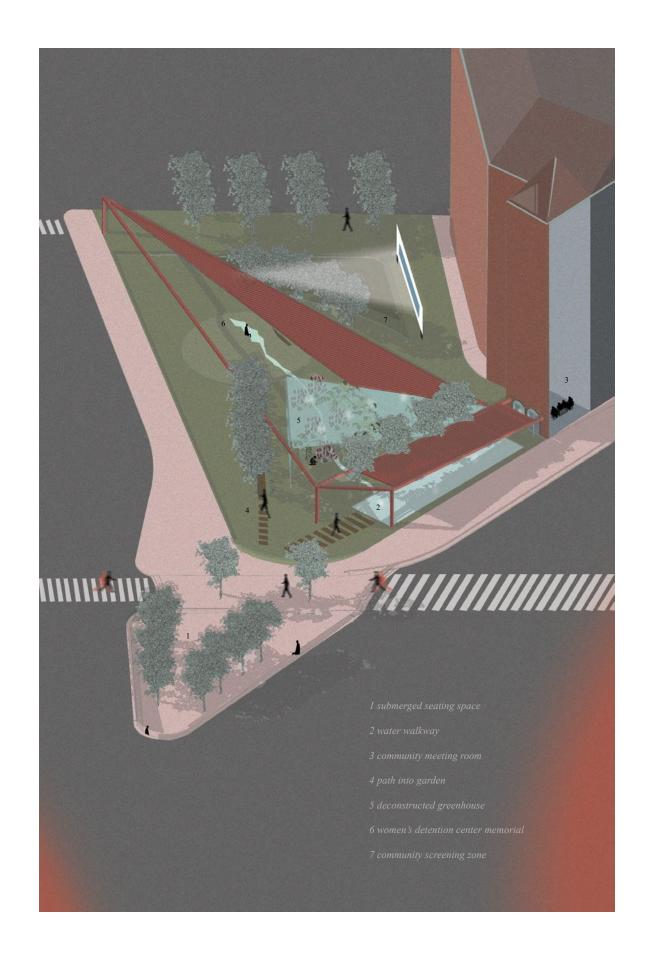
The intervention considers a variety of pedestrians: the leisurely pedestrian who stops to take a seat, the busy pedestrian simply passing through, and the resident, leaving home to engage with the garden.

Site Location Manhattan
Year Fall 2022
Critic Amina Blacksher







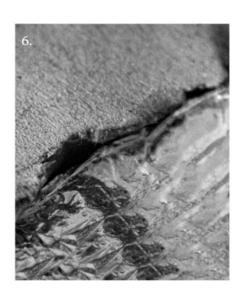




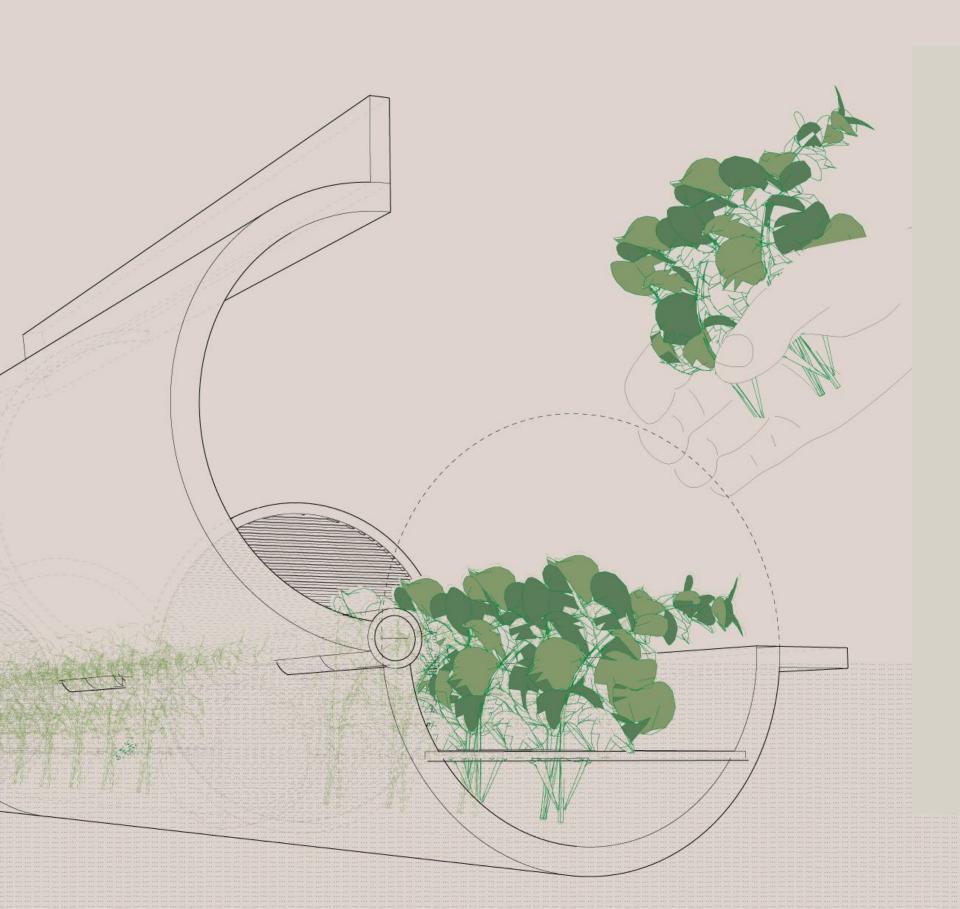




A walk through the city
One walks down slope
Sits below traffic and
Looks
Listens
Sees the garden ahead
Walks toward the promenade
Welcomed by water and
Life
Picks herbs
Heals in the Wound
The wound cries
and nourishes the garden
A full cycle



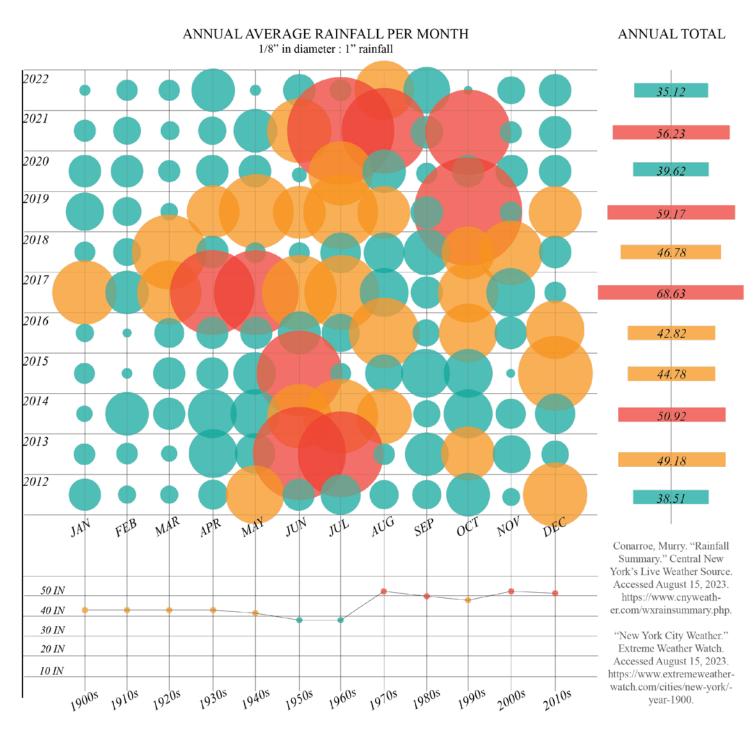




#### exploring a cycle

The rainwater collection proposal is a system between nature, mechanical systems, and people. It approaches circularity by thinking critically about the systems we already have in place and how those systems and infrastructures can be adapted or improved upon. As rain collects along city streetscapes, it flows into a network of exposed, transparent pipes. These pipes primarily function as a means of collection and distribution to water purification sites, however they are also a source of awareness and community engagement with city infrastructure. Within the pipes are herbs, their roots starting a process of natural aeration to begin purifying the water upon contact. Collected by the Department of Environmental Protection or an equivalent agency, these herbs are taken to local restaurants and community kitchens for use, and are replaced by new herbs. As a public facing infrastructure, the pipes also challenge us to maintain our public infrastructure and to develop better systems of care. The purification sites that are connected to this piping network are also public facing, allowing residents to witness or even physically take part in the water purification process. The sites utilize standard mechanical purification processes, but take a new form as a public amenity. After purification, the rainwater is potable, and is reconnected to existing main lines below grade, delivered to the city's building stock for use, and taking some demand off of the city's tap water source.

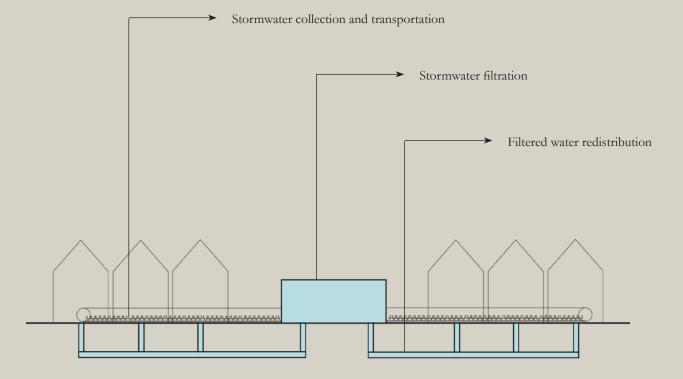
Site Location Year Critic Manhattan Spring 2023 - Present Regina Teng



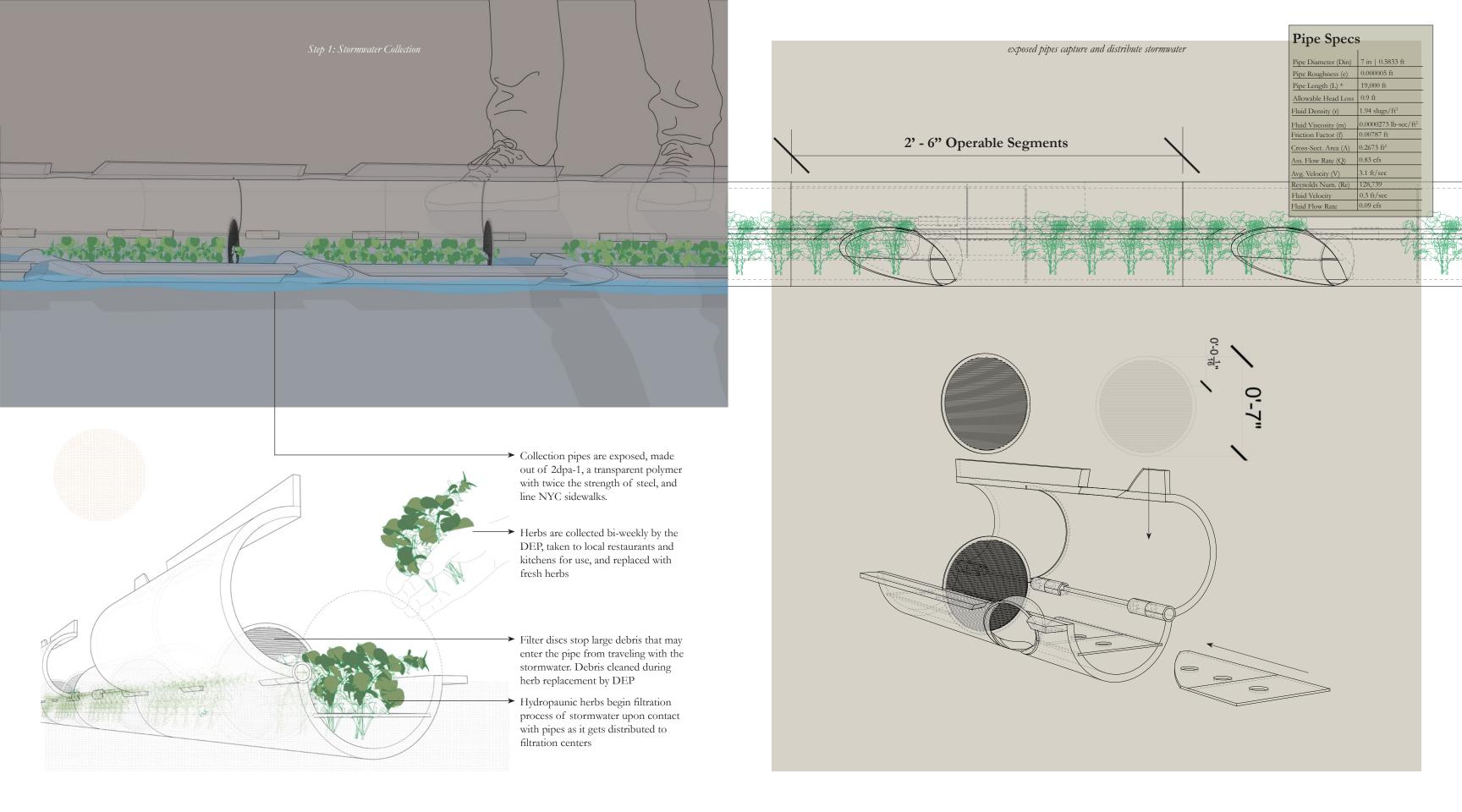
AVERAGE ANNUAL RAINFALL PER DECADE

The interest in collecting stormwater at an urban scale originated from the fact that New York City receives about 11.8 billion gallons in rainfall on an annual average, and that this quantity has been gradually increasing.

#### system diagram



The solution called for an urban system that could collect as much stormwater from city streets as possible, distribute that stormwater to filtration sites, and then redistribute that filtered water to the existing infrastructure that feeds building stock.

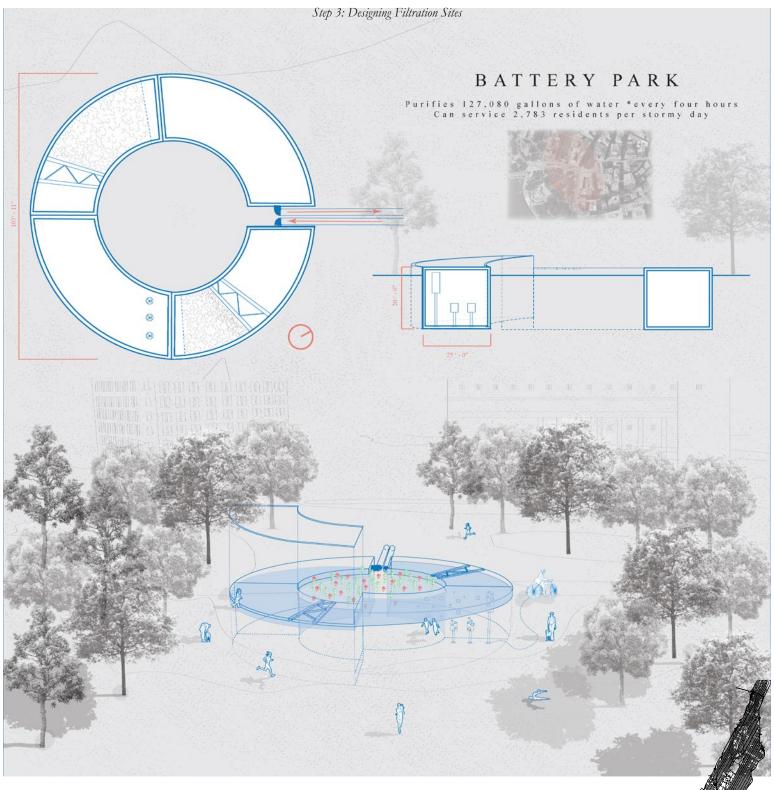




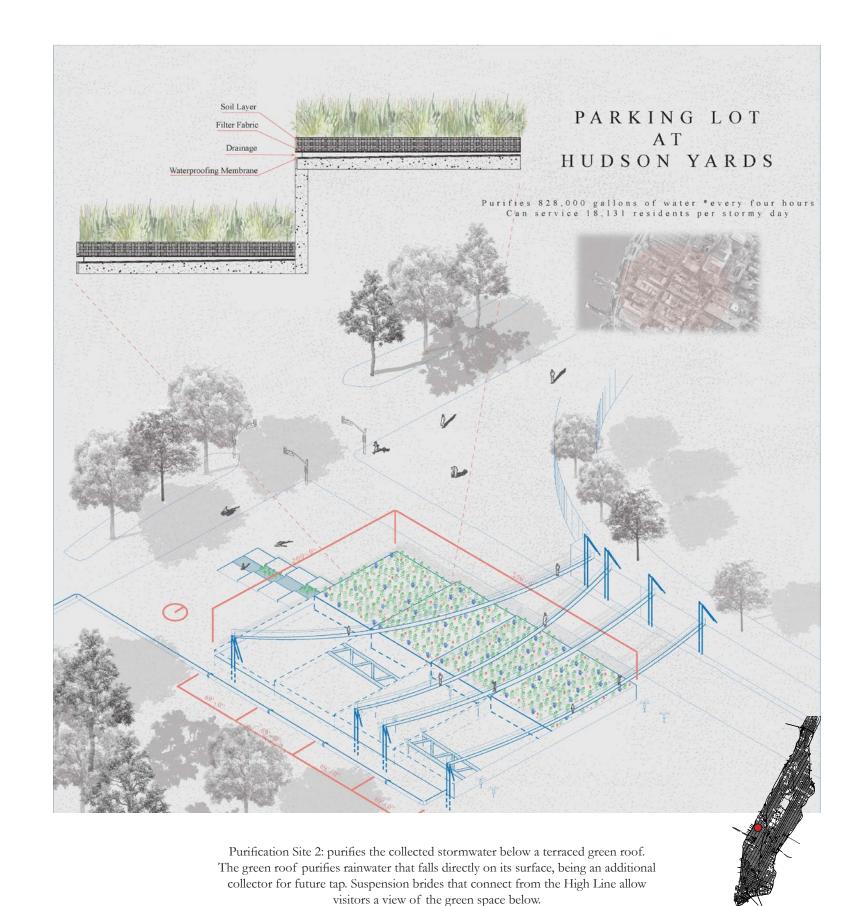


GALLONS 9.0 \*  $\operatorname{FT}$ S BEDROCK VALLEY BEDROCK

Map Identifying Optimal Purification Sites in Relationship to Bedrock Depth



Purification Site 1: A circular purification tank peeks from beneath grade by 2 ft, expressed in glass to reveal the process of purification to passersby. Some of the aeration pumps are operated by stationary bike, giving people the opportunity to be part of the purification process of their future tap. The sludged debris is reused in the community garden that is pre-existing on site.



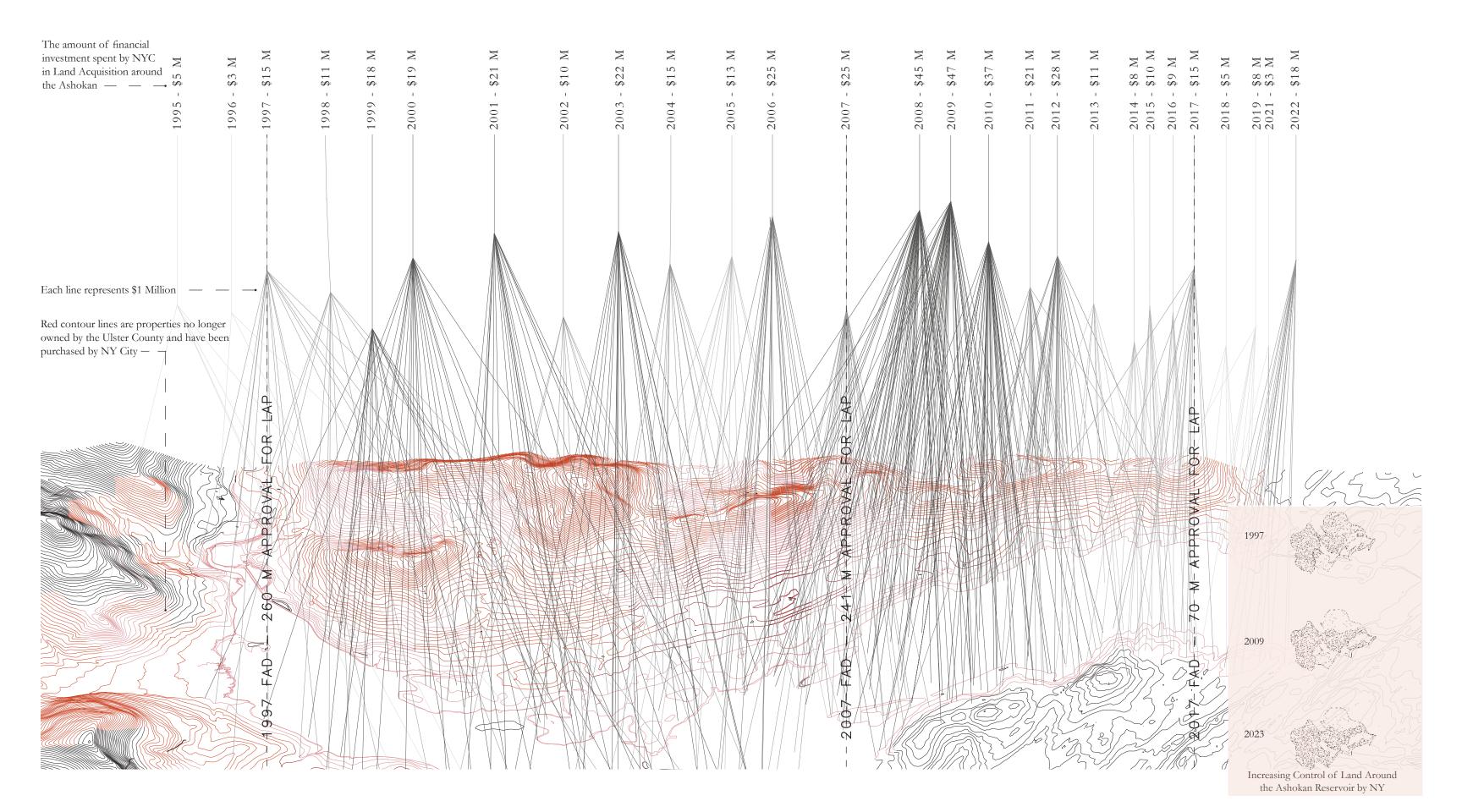


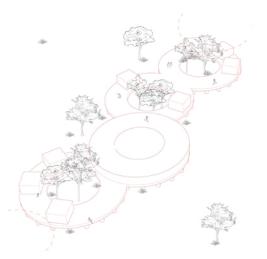
#### this placement is mine

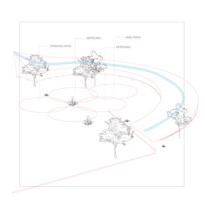
The history of the Ashokan Reservoir can be told through a series of land dispossessions and biased prioritizations, while the living experience today can be characterized by the relentless asset greed of New York City and the anxiety that your property, your neighbor's property, or the small grocer down the street, may be next.

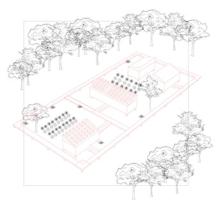
After consideration of the long history of land dispossession, displacement, and economic depletion enacted upon upstate localities, it is clear that the DEP and it's operation of the LAP has little regard for the communities of the Catskill/Delaware watershed at best, and intends to continue to displace and deplete the communities for financial gain at worst. The residents of the Town of Olive specifically remain under threat of this process as NYC plans to still acquire another 1000 acres, approximately. If the residents of Olive desire to remain in their community and to rebuild the infrastructure and businesses that were bought, an alternative mode of living must be considered. Thus, the inquiry posed by this investigation looks for a means to 1) fortify the community within the Town of Olive to make future displacement efforts difficult, and 2) to discover a method of community development without the need of land development in a matter that could never be considered disruptive to the natural ecology of the land.

Site Year Critics Ashokan Reservoir Spring 2024 - unfisnished Alessandro Orsini

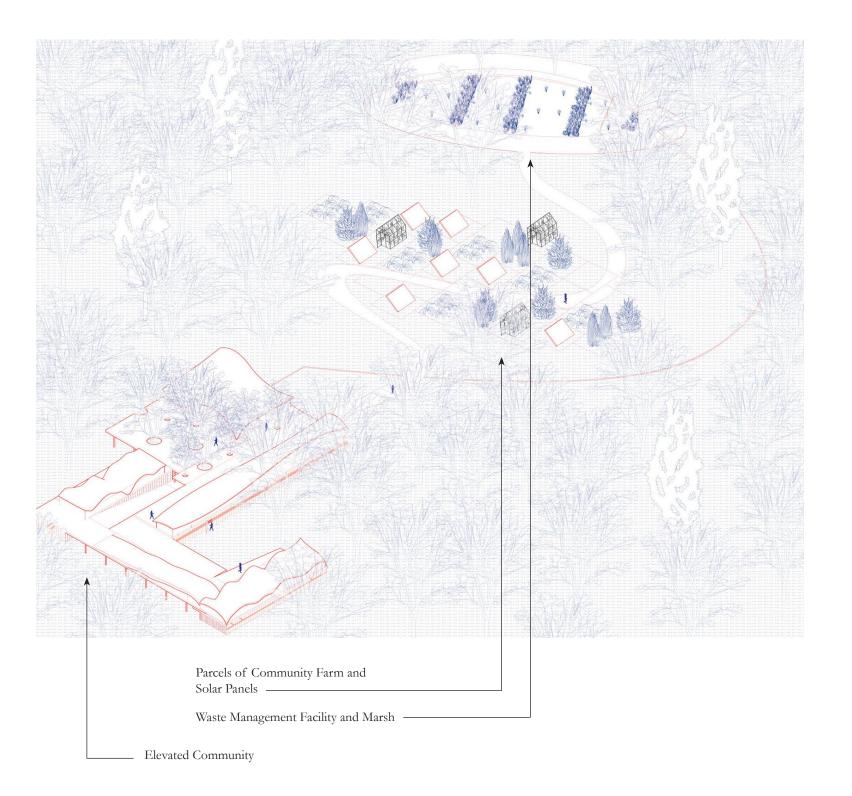


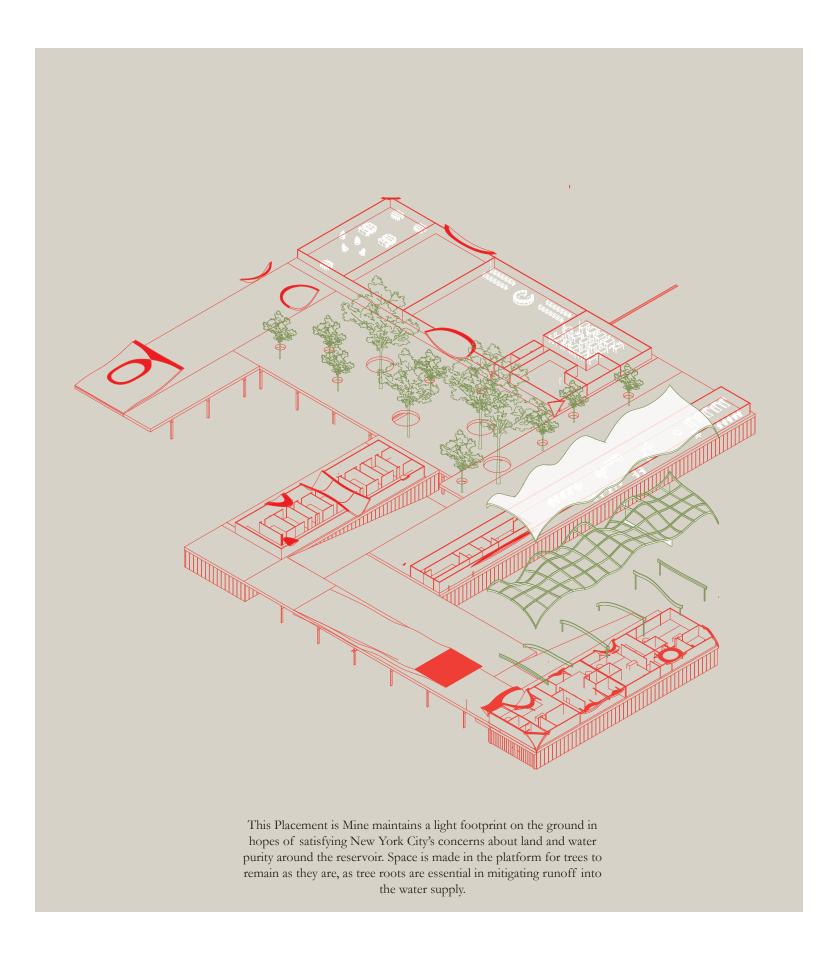


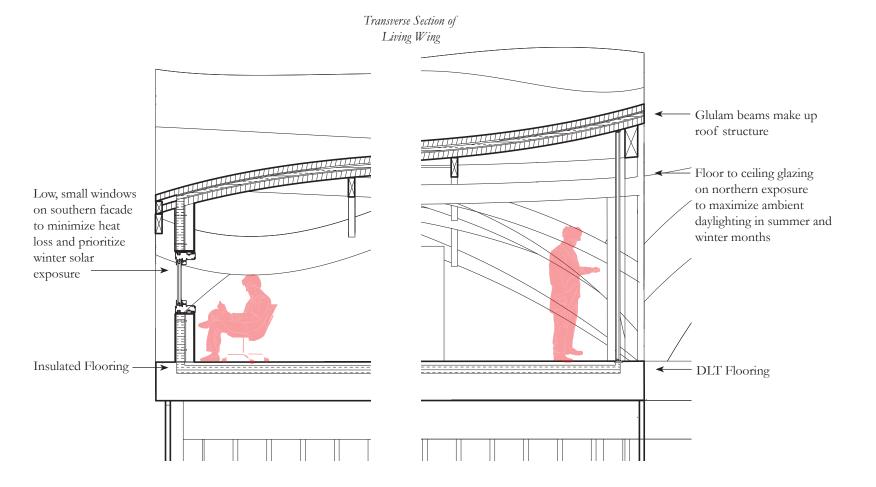


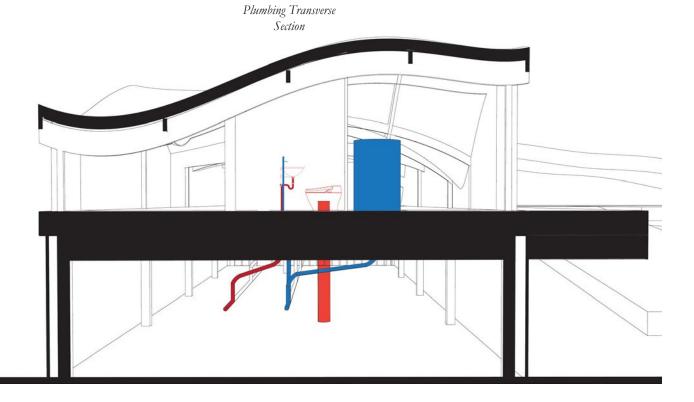


#### Site Isometric of Circular Community









private space are where we hope to have the most agency, they are spaces we tend to claim personal ownership over, and thus become reflections of ourselves and our values. There is a fine line between your environment refelcting you and your environment owning you, its imperative we walk this line carefully.



#### pocket home

Quiet, natural, small, a dead end like a nook: these are the pre-existing qualities of the site, and these are the elements that make this space beautiful. As designers, we aim to not only preserve these qualities but enhance them. When we envision a home at 454 W 128th St, we imagine an amalgamation of small nooks, lots of light, and a cohabitation of strangers, plants, and existing conditions. As the site is in many ways disconnected from the surrounding housing units, we believe that 454 W 128th St can become a neighborhood within itself, one that is self-sustaining and adaptable to the ever-changing nature of life.

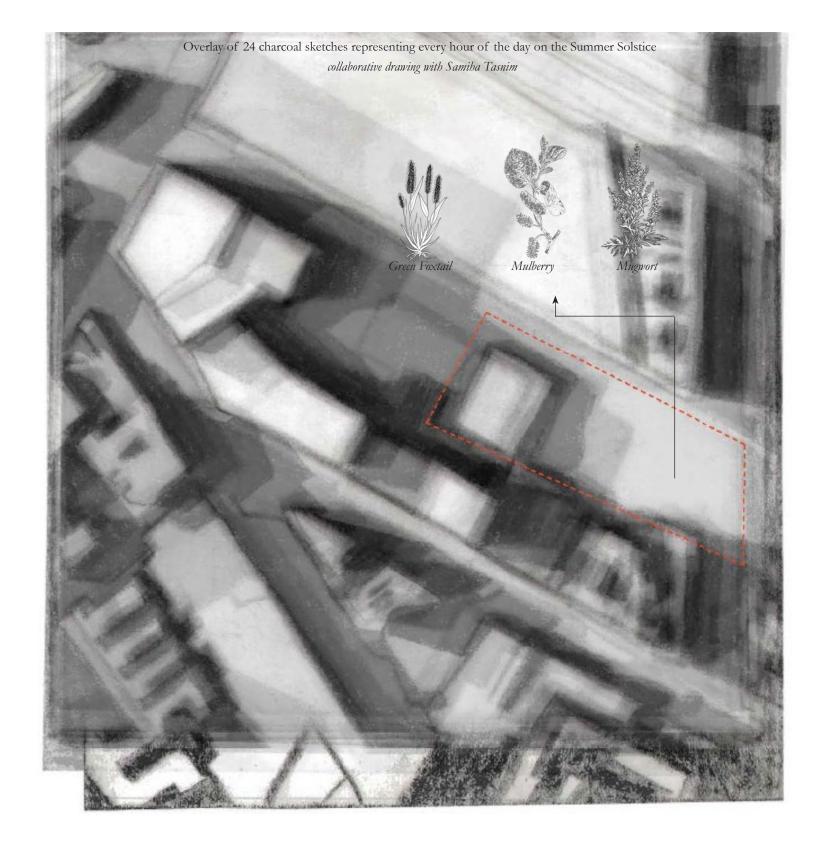
On a small scale, self-sustaining may mean the interior finishes are hardy and require minimal upkeep. They are materials like concrete, steel, and hardwoods that can withstand the roughness of day-to-day life within a family nucleus. Adaptability at a small scale may mean non-prescriptive spaces and architectural elements that can be reconfigured to serve the inhabitants better, such as floor to ceiling sliding and rotating walls. We determine this a primary concern from the understanding that no two families are the same, and no one family remains the same over the span of years.

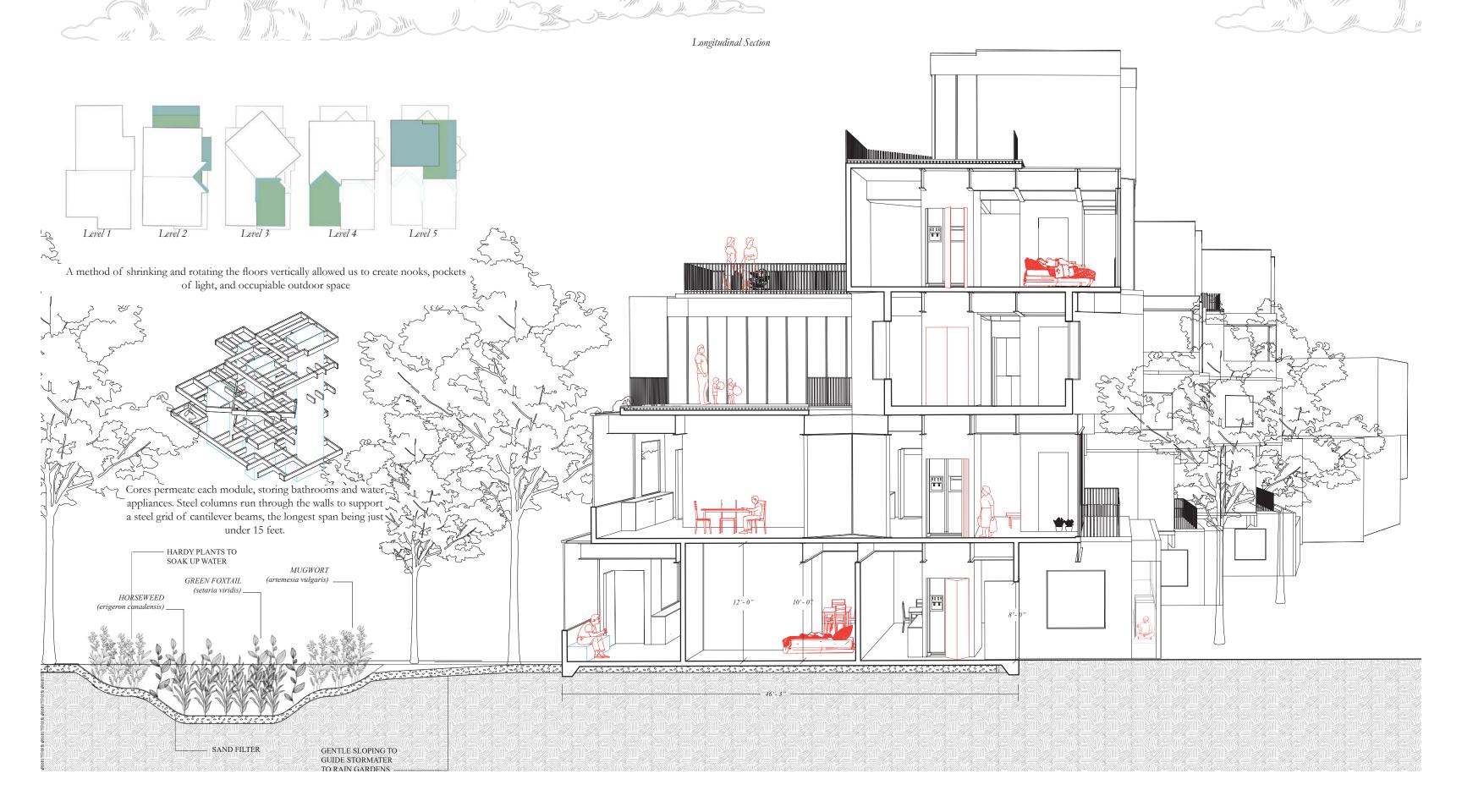
On a large scale, self-sustaining may require residents across units to develop a sense of community and be willing to work together. This can be encouraged through architectural organization, however, fundamentally it will rest in the hands of the residents. Adaptability at a large scale could mean clear and accessible horizontal and vertical circulation and various zones of respite and activity. An organization of structures that does not anticipate nor suggest the path that residents may take to traverse the site. In the end, 454 W 128th St will not try to predetermine the use of itself, but will encourage the fluid and heterogeneous use by those who live there.

Site Location
Year
Critic
Collaborators

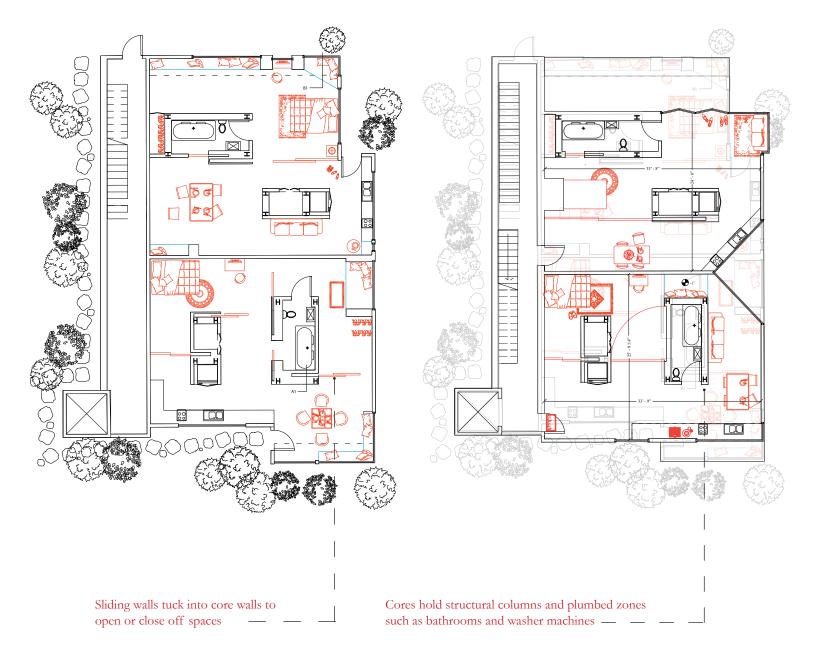
Harlem Fall 2023 Benjamin Cadena Samiha Tasnim

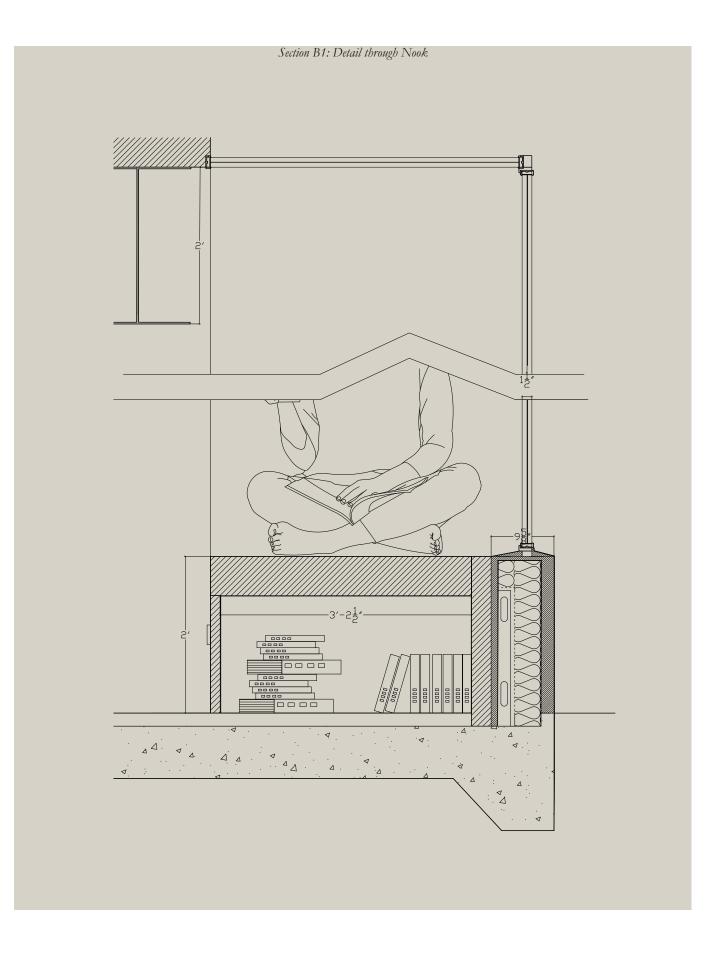




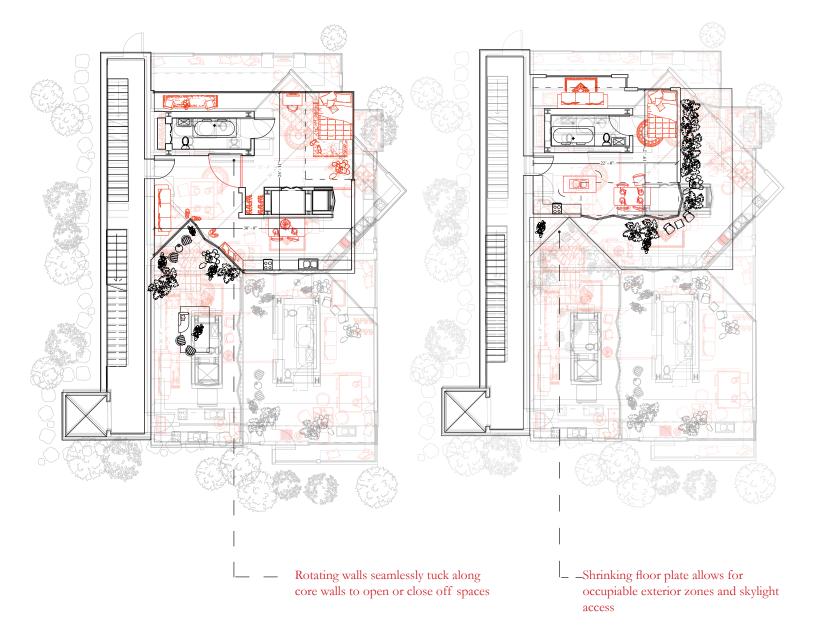


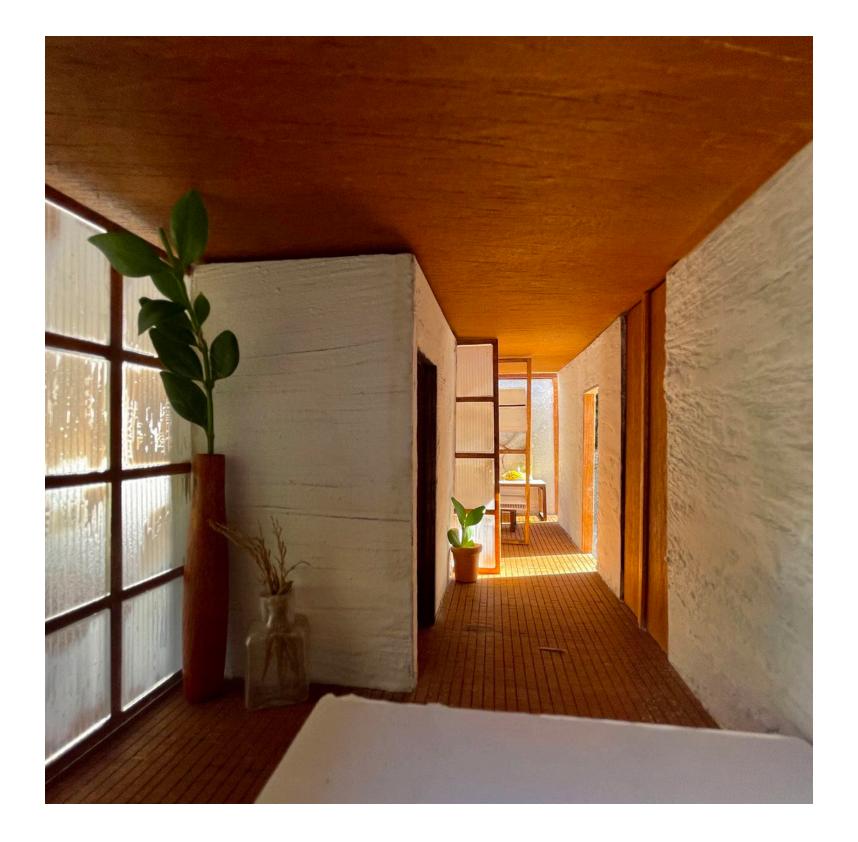
Ground Floor Second Floor



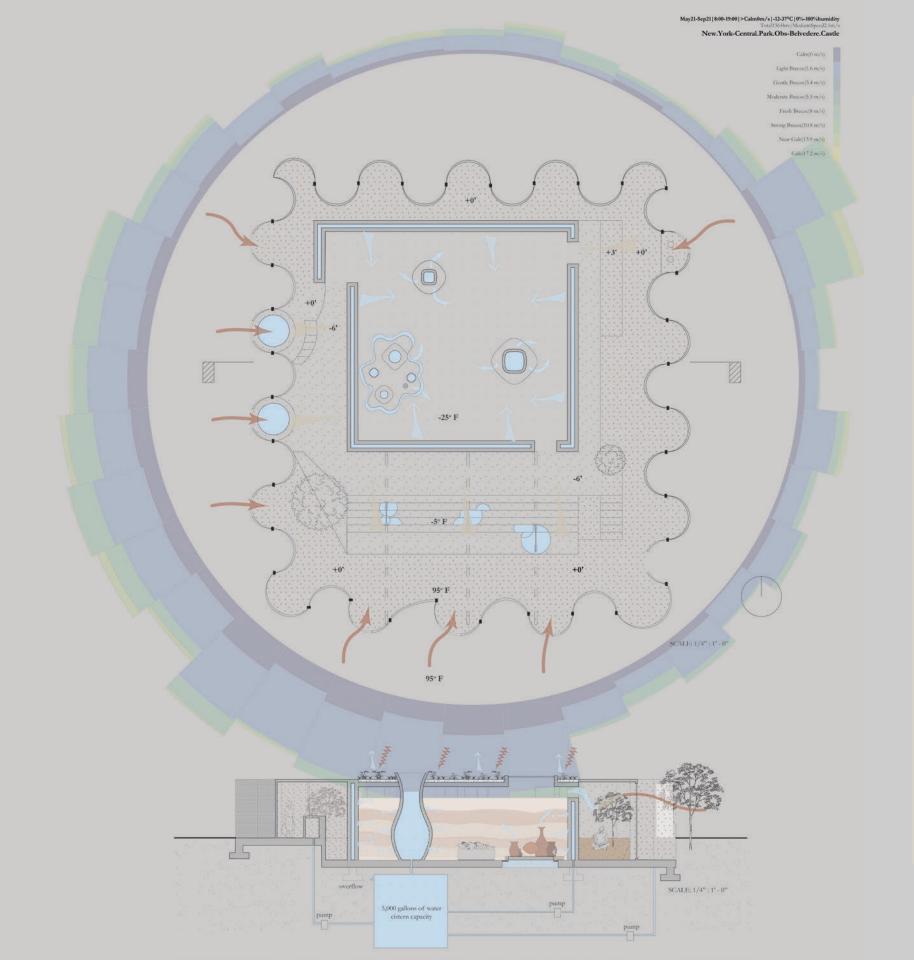


Fourth Floor Fifth Floor





Interior Model Photograph



#### central cool

Central Cool experiments with the possibility of passive adiabatic cooling techniques. Designed to be an experiential gradient of thermal energy from hot to cool, the perimeter of the home absorbs solar energy, while the center is the most cool area of the home. Taking inspiration from evaporative cooling practices of the middle east, the concept of the terracotta pot as an evaporative cooling instrument was scaled up. Large terracotta pots the size of columns puncture through the roof plane and collect rainwater, some of which evaporates off the skin of the clay, and the rest of which is recirculated throughout the home and used for other evaporative cooling devices as well as grey water uses. The walls that enclose the central space turn that room into a vase in and of itself, as a water channel feeds the stone walls that are allowed to sweat throughout the day.

Site Location
Year
Critics Philit

Siteless Fall 2024 - brief project Philippe Rahm + Mariami Maghlakelidze

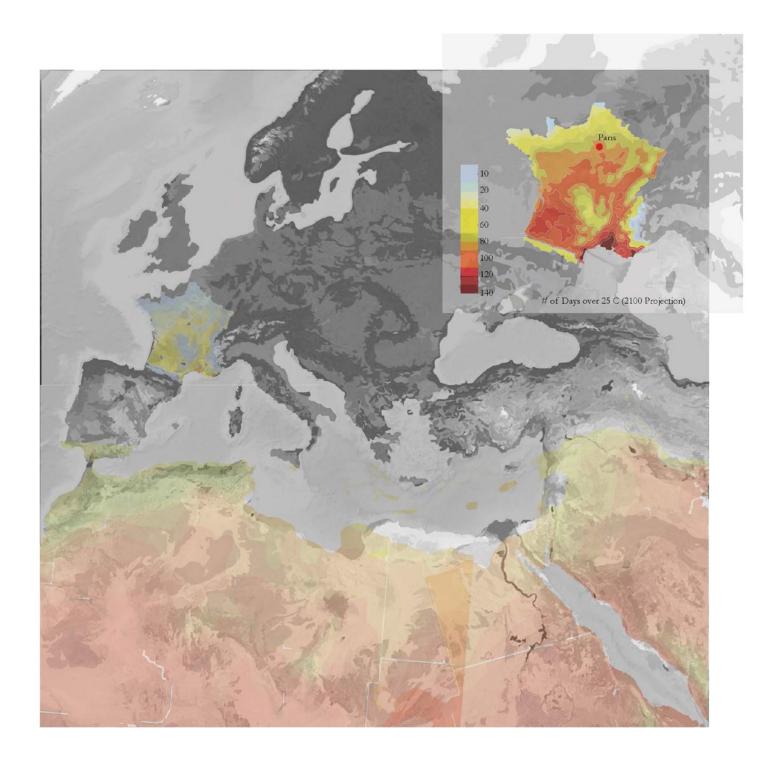




#### skin restore

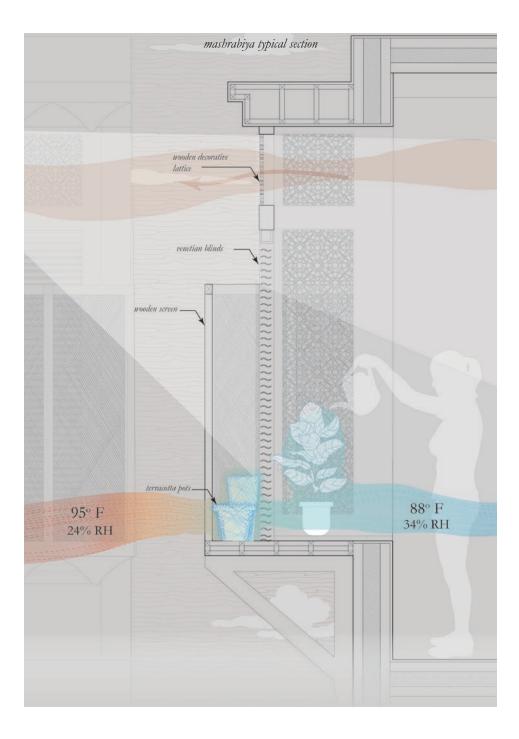
Globally, our environment is entering dangerous territory. The IPCC has projected that at the worst case scenario, if we do nothing about our carbon consumption, many temperate climates around the globe will foresee subtropical conditions as their new norm within the next 75 years. Paris, France is on said list, with an overall drop in relative humidity expected and an increase in air temperature by 40 degrees farenheit. Skin Restore aims to learn from vernacular techniques traditional to Mediterranean cultures, and adapt them to Parisian context and culture. The wellness retreat is broken into two micro-climates, hot and cold, by large marble walls that harvest rainwater and store it for use. In the process of water collection, the porosity of the marble allows the marble to soak up some of the water, and as strong winds blow in through the South West facade, across the warm wellness zones, the strong wind evaporatively cools on its way to the cooler well zones on the North East side of the floor plate. The large marble walls also function as a wind tunnel, increasing interior velocity, as well as a light well, direct solar light bouncing across the reflectivity of the stone down to the ground floor. At the end of the retreat, participants are asked to take part in some repair on the marble, an acceptance of the slow damaging of the stone from the water, and a reciprocation of the restoration the walls have done for the patients as well as for the climate.

Site Location Year Critics Paris, France Fall 2024 Philippe Rahm + Mariami Maghlakelidze



The global climate can be described as migrating; as carbon emissions continue to go unchecked, regions of the globe that have historically been mild or temperate in climate are heating to unprecedented levels. It is predicted that, following the emissions scenario of RCP 8.5, Paris, France will be 4 C warmer. It can be seen that the heat index will make Paris a similar climate to North Africa and the Middle East.

If the climate is migrating north, can we migrate vernacular architectural strategies to new zones to be implemented as passive cooling technologies?





testing terracotta pots



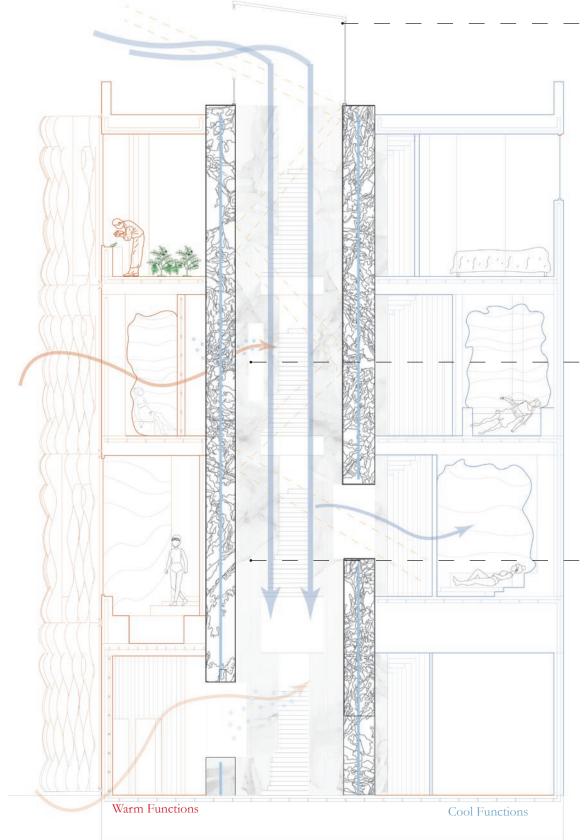
testing different scales of pots



The Mashrabiya is a passive cooling technology that has been used across the Middle East and North Africa for centuries, dating back to medieval usages. Outer lattices shield from direct solar exposure, while the protrusion into the street creates another layer of division between the sun and interior of the home. Terracotta pots were commonly placed within the protrusion, filled with cold water. The porosity of the terracotta allows the material to absorb the cold water, and as hot wind blows across the pots from outside, the warm air wicks and evaporates the water from the surface of the clay, taking the now evaporatively cooled air into the home and cooling the space.

The efficiency of terracotta pots as cooling devices was tested, and it was derived that a massive scaling up of the system could provide thermal comfort.





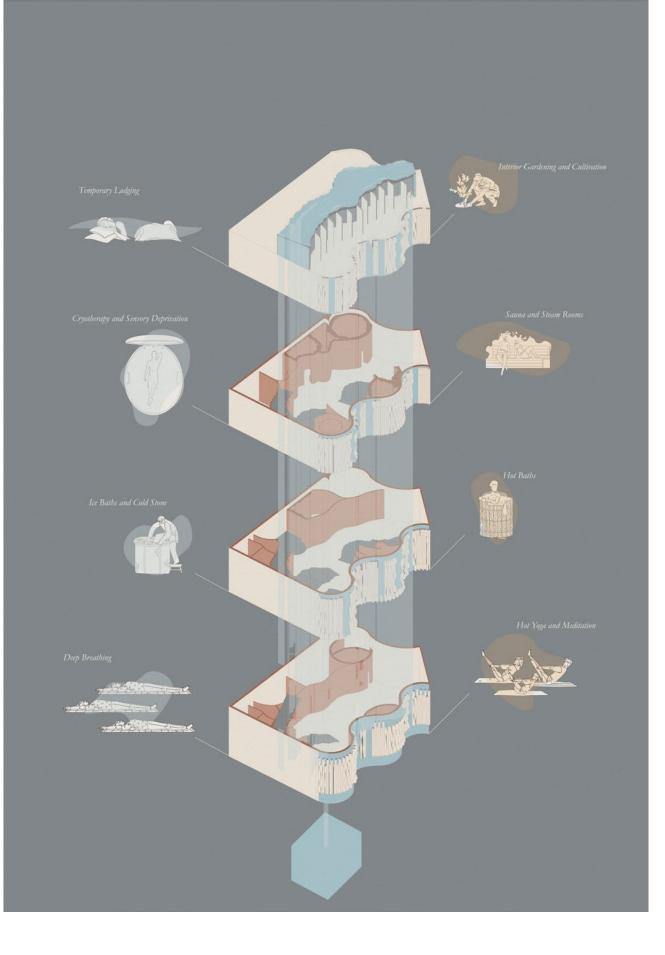
Wind tower with baffles oriented towards major summer winds bring strong wind into center of the building

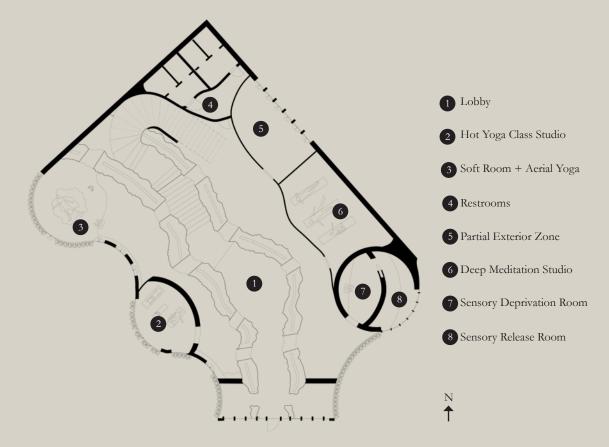
Gentle breezes pass through openings on the facade, subsequently through openings on central core to push strong winds across the floor plate

Collected rainwater trickles through channel within marble core walls, winds from outside pull the water from the surface of the marble as it is absorbed and sweat through the material, across the plate to evaporatively cool, mimicking the function of the terracotta pots

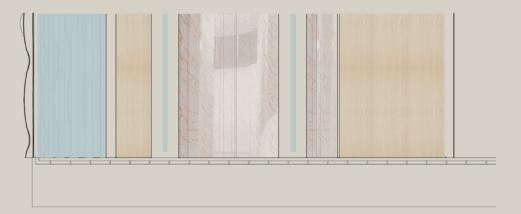
#### organization of space

The methodology of spatial organization of program was organized according to whether the function was a warm or cool restorative practice and how isolated of an activity it was. All warm programs were placed on the west of the core, closest to the facade and solar gain, while cool programs were placed to the east of the core, on the receiving end of the evaporative cooling measures according to air flow. The ground floor consists of communal wellness activities, for example hot yoga classes and cold meditation. The second level becomes more immerse and still communal, hosting hot salt baths, cold stone therapy, and ice baths. The third floor now becomes individual practice and more immersive, the stone walls now enveloping the patient in sauna rooms, steam rooms, and cryotherapy. The uppermost floor becomes the final state of rest, as temporary lodging is provided on the cool side and interior gardening as a restorative practice on the warm side.

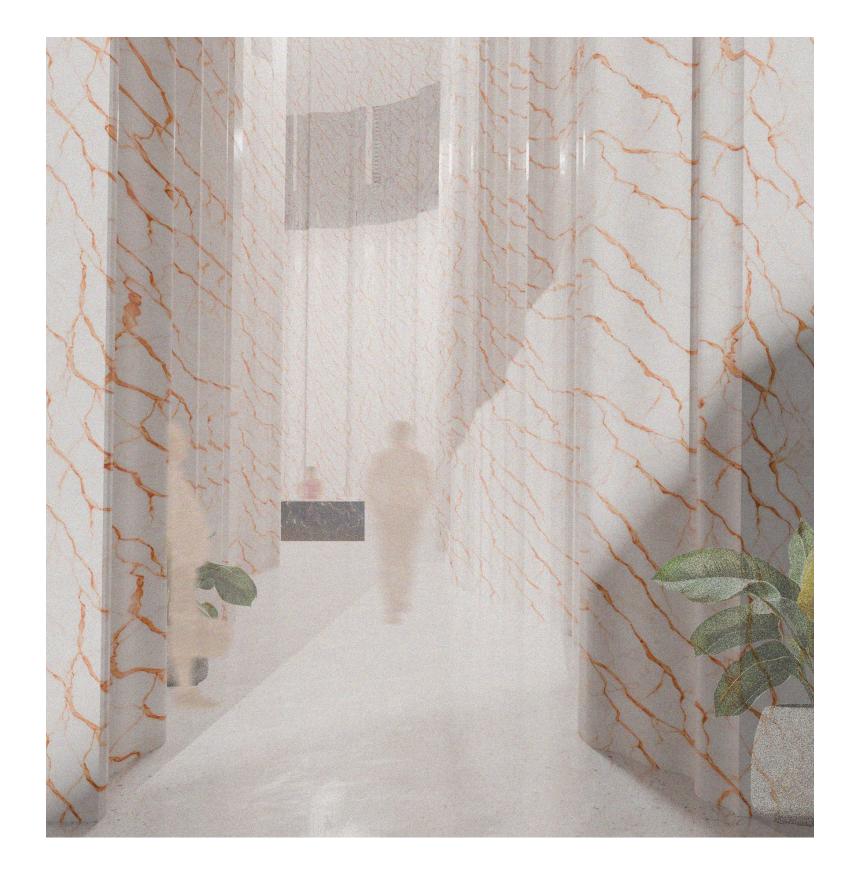


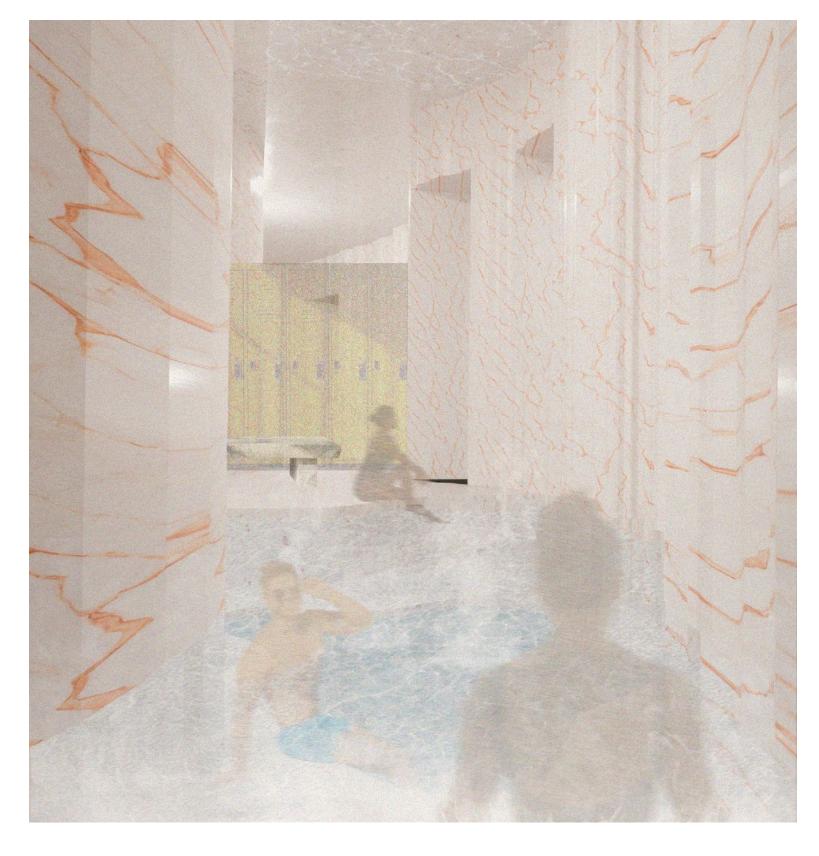


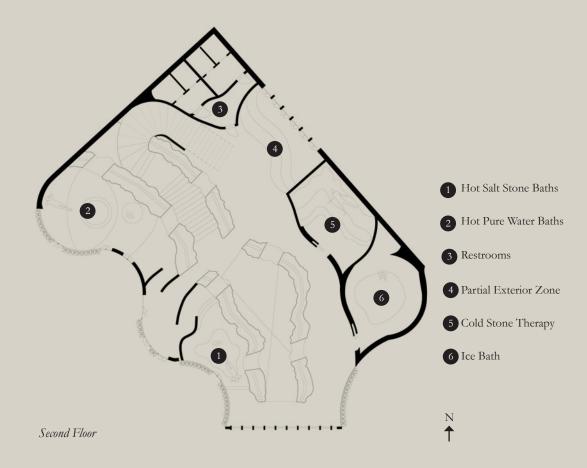
Ground Floor





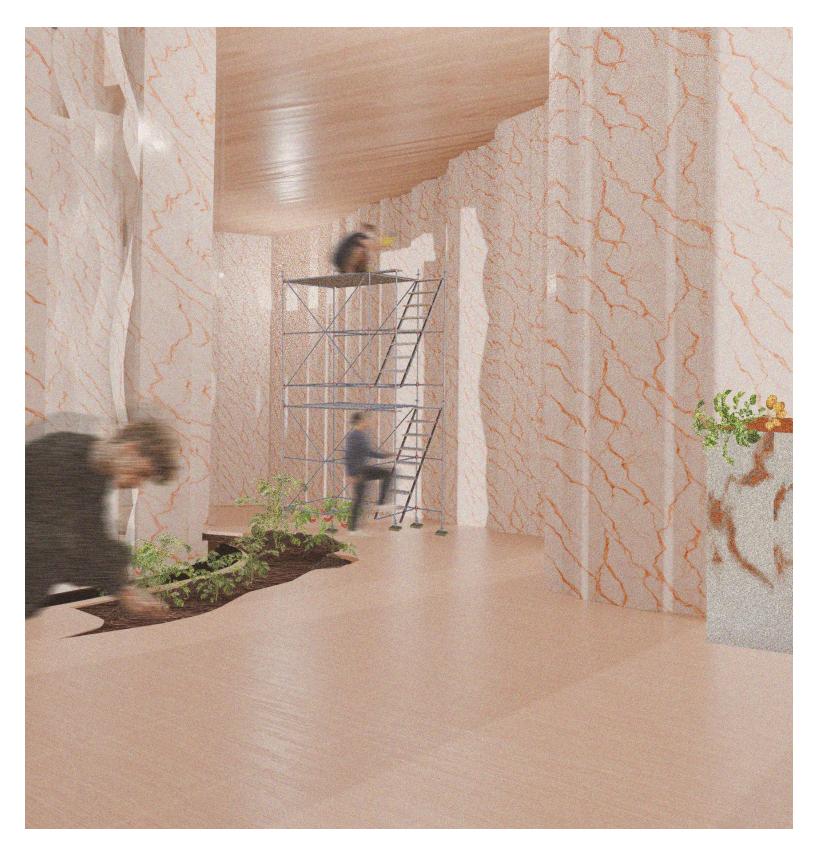




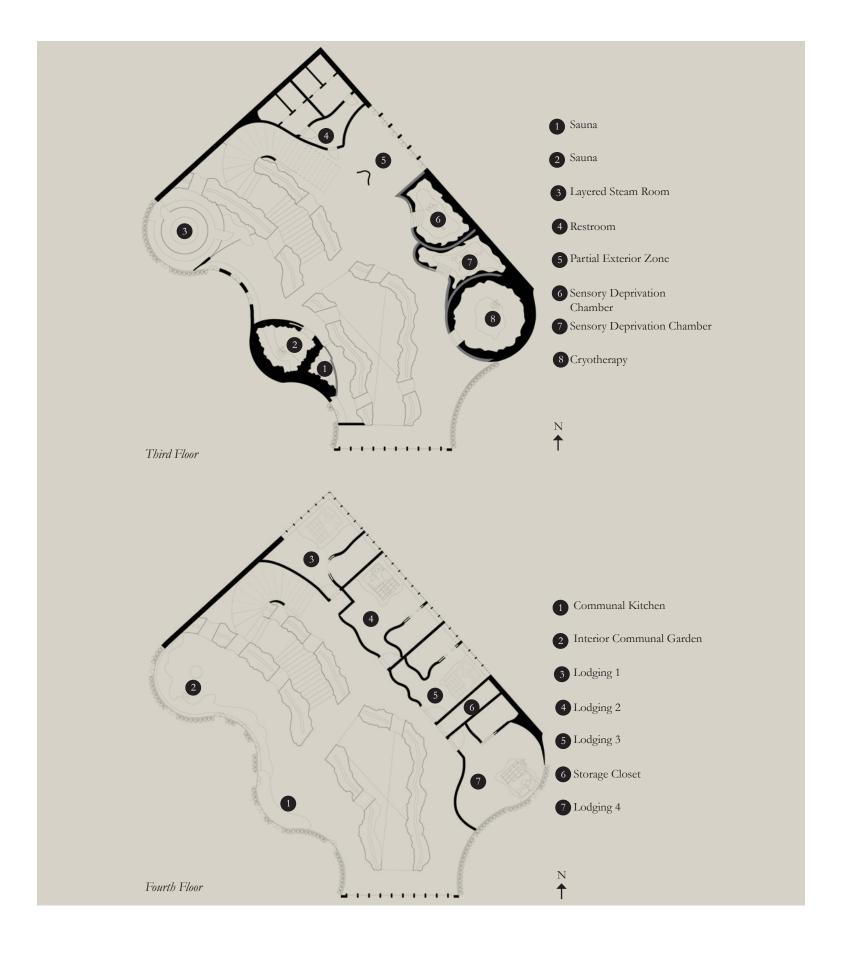




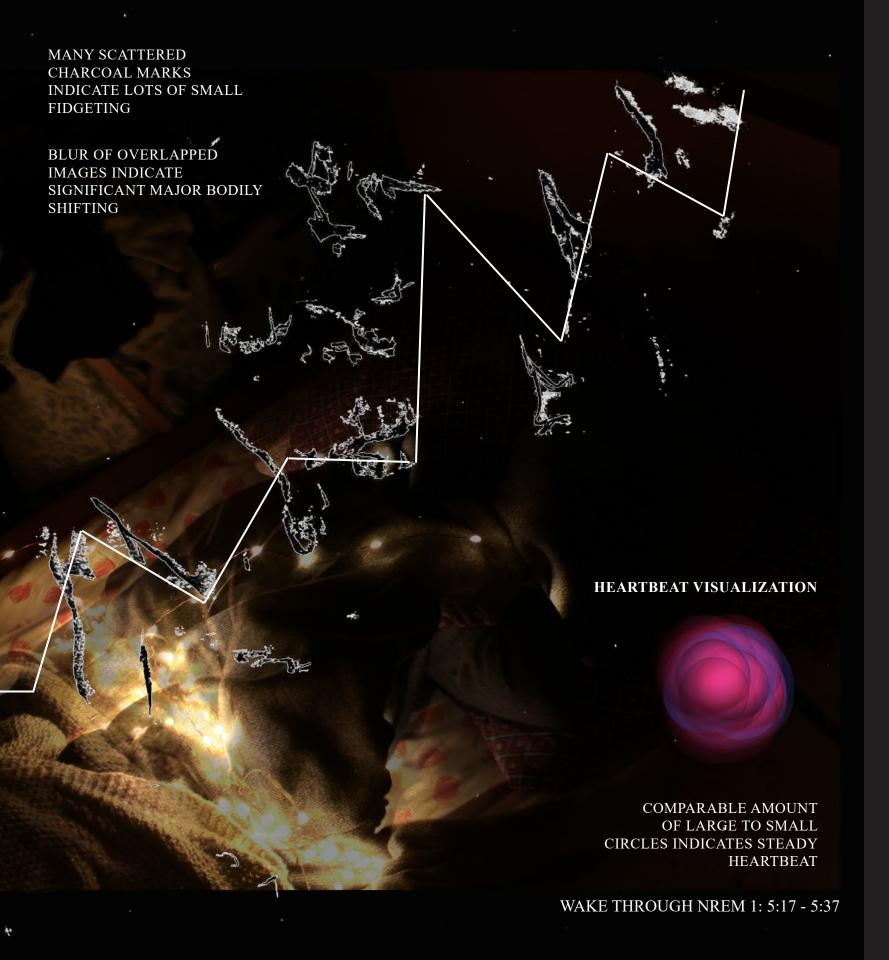
Isolated Second Floor Section



At the end of the wellness retreat, patients are asked to give back to the building, cleaning the surface of the marble.



self is maybe the most complicated space to understand. Rarely do we think about the body as a space, often we think about it in space, yet understanding the makeup of the spaces of the self - body and mind and the things in between - makes for better other spaces.



#### body at rest in motion

From a young age, we are ingrained to "make the most out of the day". The idea that there a finite amount of hours during which we can be productive becomes ever more relevant as we grow older. Sleep, however, is equally as important to our daily output as daylight hours are. Most of our rebuilding and physiological recovery occurs during rest. Sleep Productivity is the first of a series of sleep analyses to better understand how the body functions in states of rest.

Site LocationHuman BodyYearSpring 2023CriticsGenevieve Mateyko

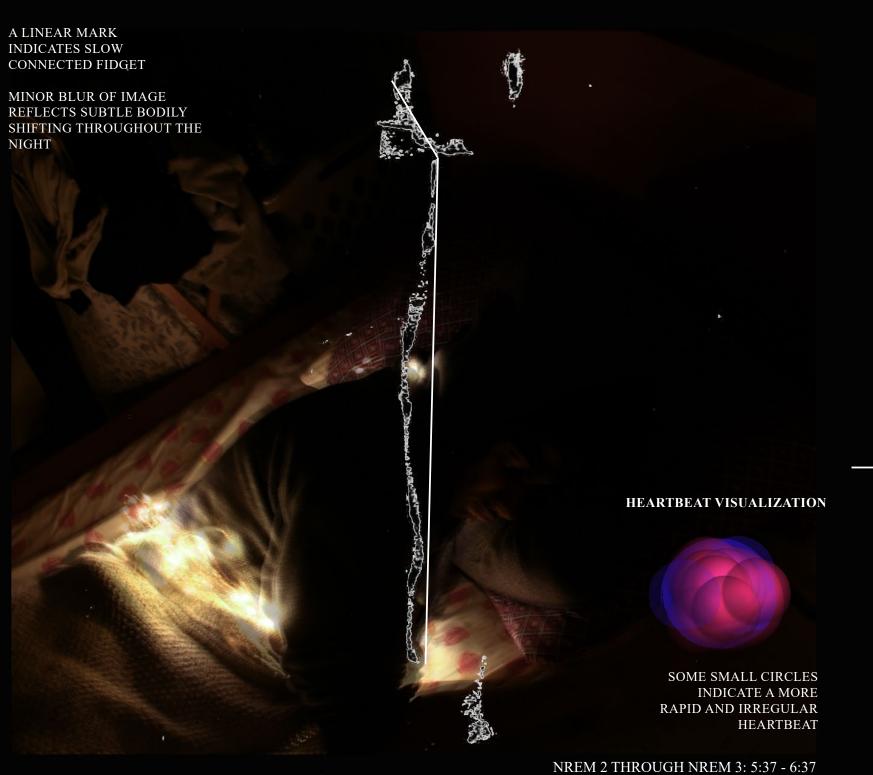
#### M E T H O D O L O G Y

charcoal taped to hand,

vellum layer between sleeper and the bed sheets

Camera on tripod captures a long exposure shot every 10 minutes throughout the 90 minute sleep cycle.

Photos overlayed in post-production according to sleep stage







REM: 6:37 - 6:52

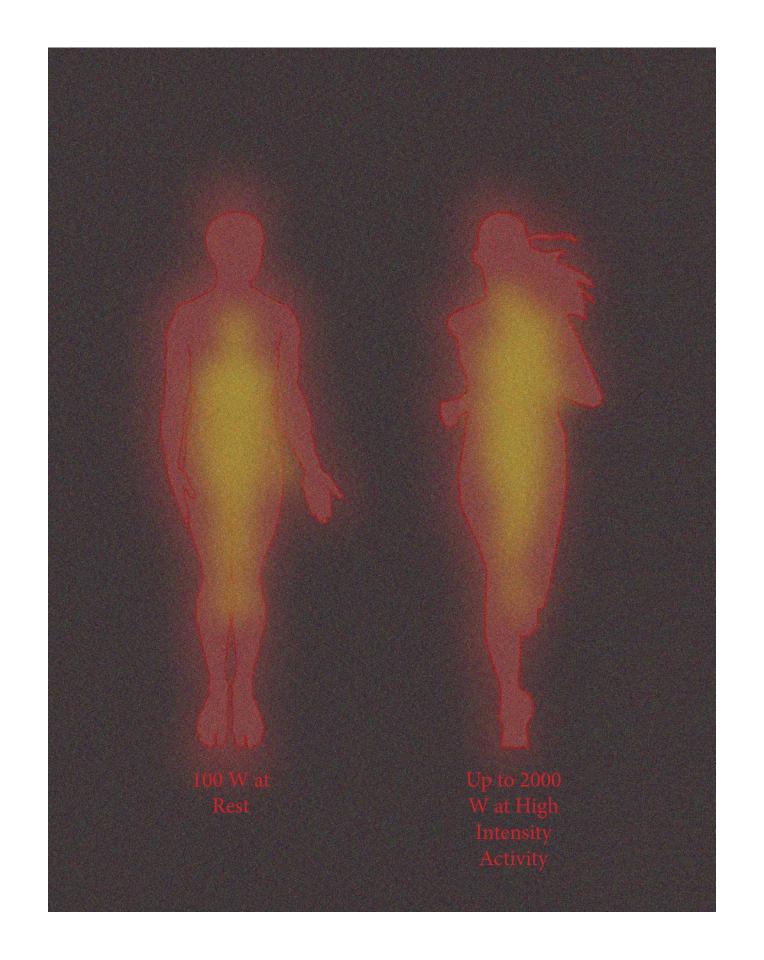


#### woman is home

Body heat is an invisibile force yet incredibly tangible. Standing shoulder to shoulder with someone, you exchange body heat. When a bunch of people crowd together into a room, the room gets noticebly warmer. Earlly investigations in this semester were looking for methods of capturing this waste body heat and using it for some sort of productive purpose within architecture - could I capture waste body heat and convert it into electricity? The answer was ultimately yes, however I was slowly creating spaces of transaction that felt incredibly capital driven, an intent I rejected. Thus I shifted gears, looking towards opportunities to protect warm domestic activities from over heating in the Athens climate, while also creating opportunities for communal exchange that left human imprints on the architecture. The end product was a system of home that uplifted community activity, engaged the architecture in supporting the habit of the women that inhabit the space in a symbitoic manner, and a space that reacted to the women in a positive and beautiful way. The female body activates the space and empowers the architecture. This is very much a work in progress.

Site Location
Year
Critics

Athens, Greece Spring 2025 - present Lydia Kallipoliti



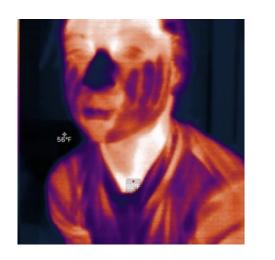






body heat is left on materials as a physical trace

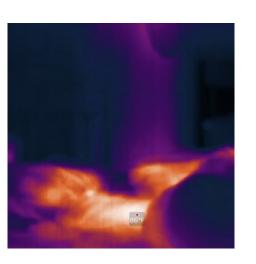


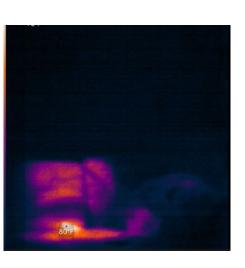


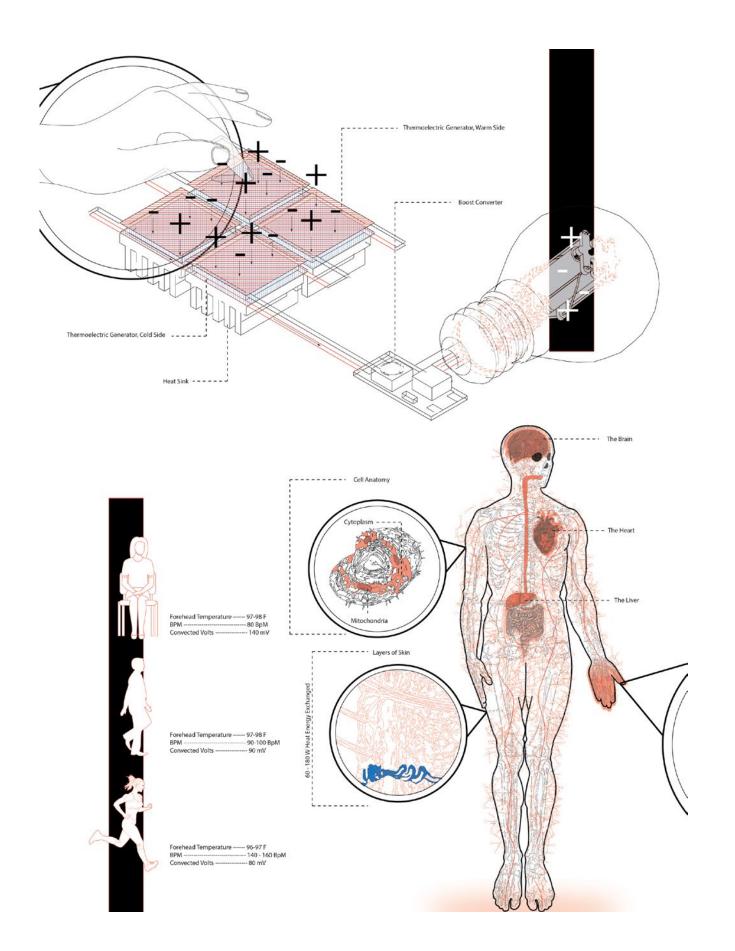


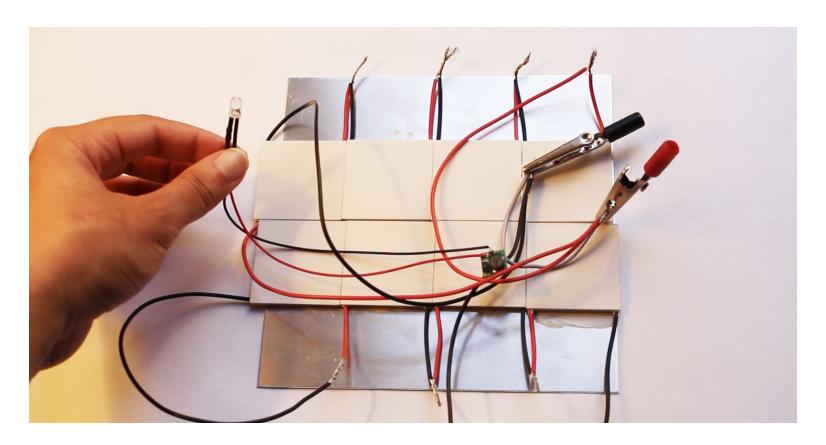
our surfaces remember us



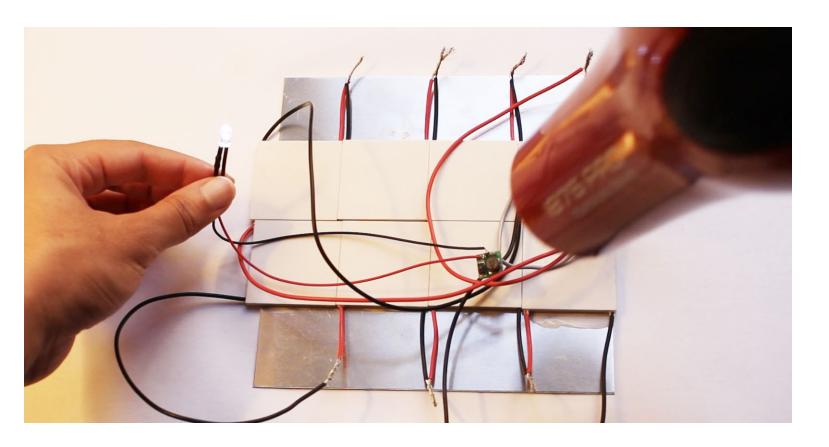


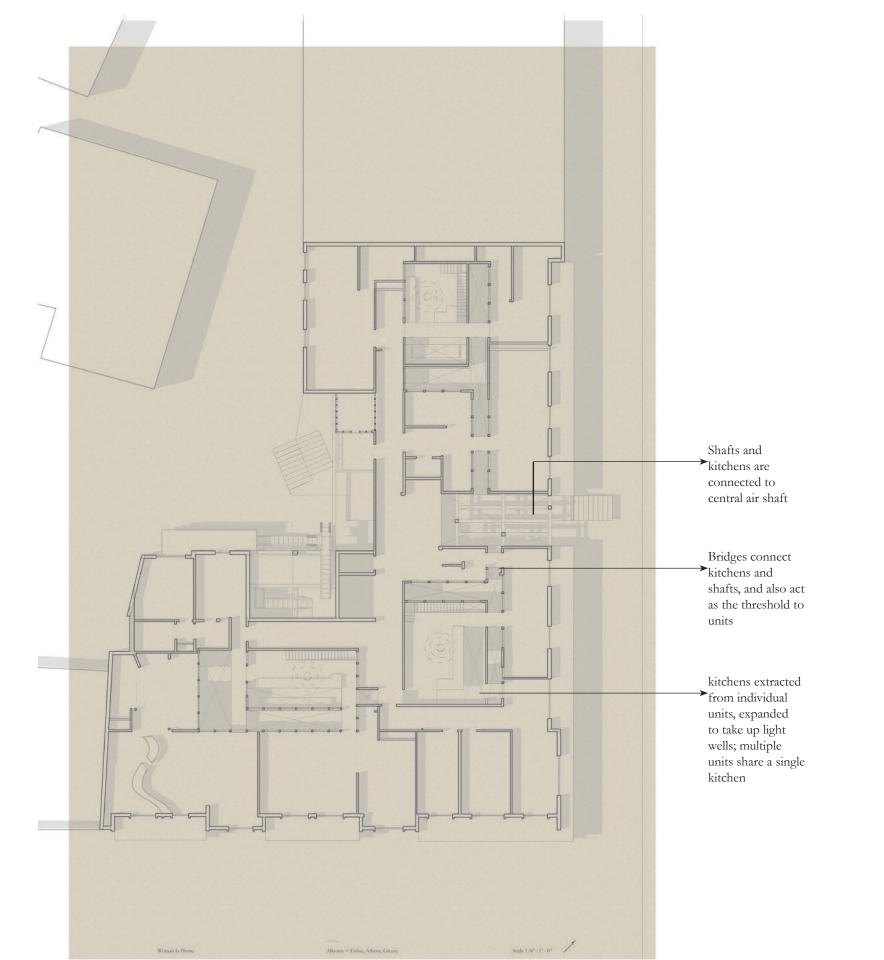




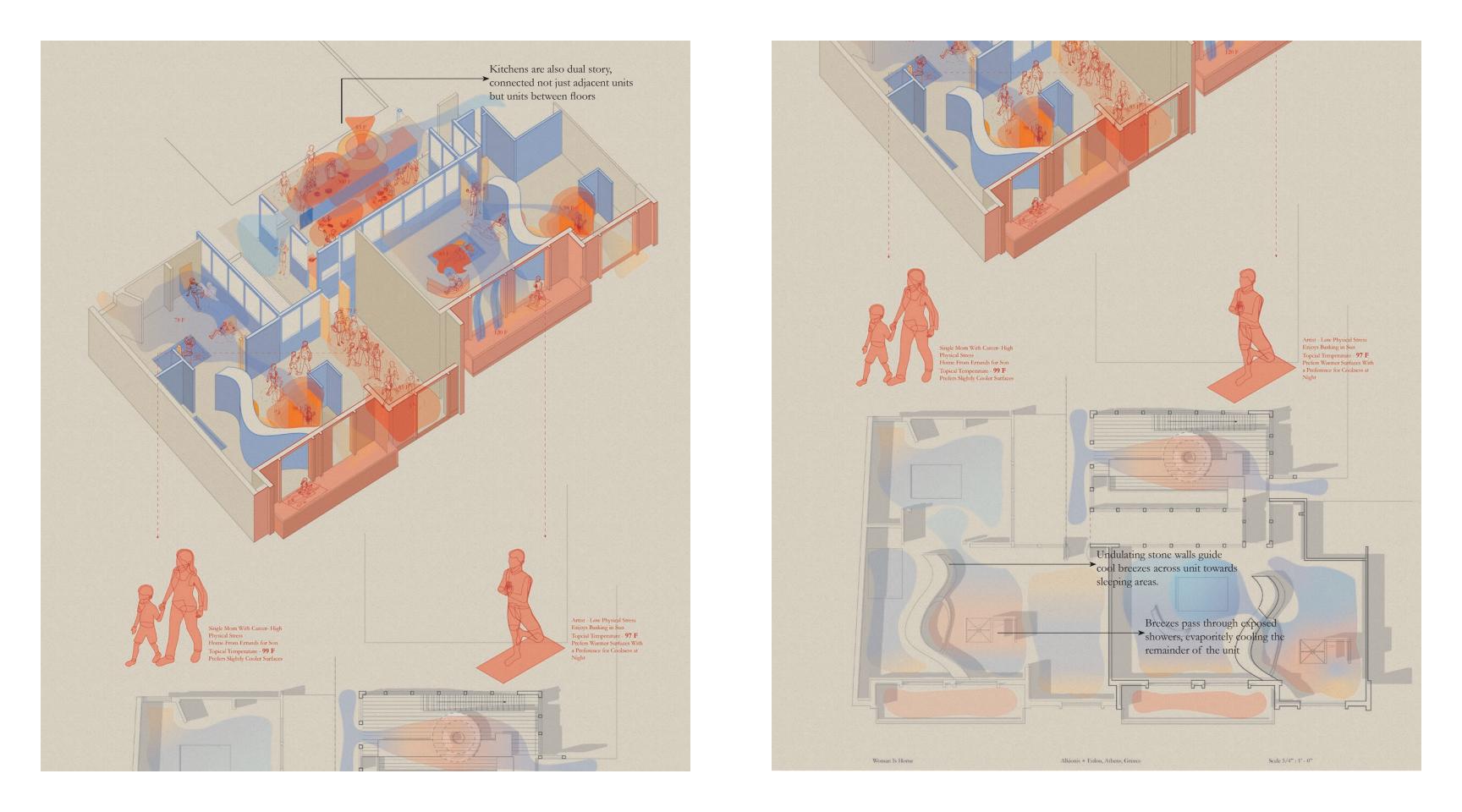


heat can produce electricity, but this felt transactional









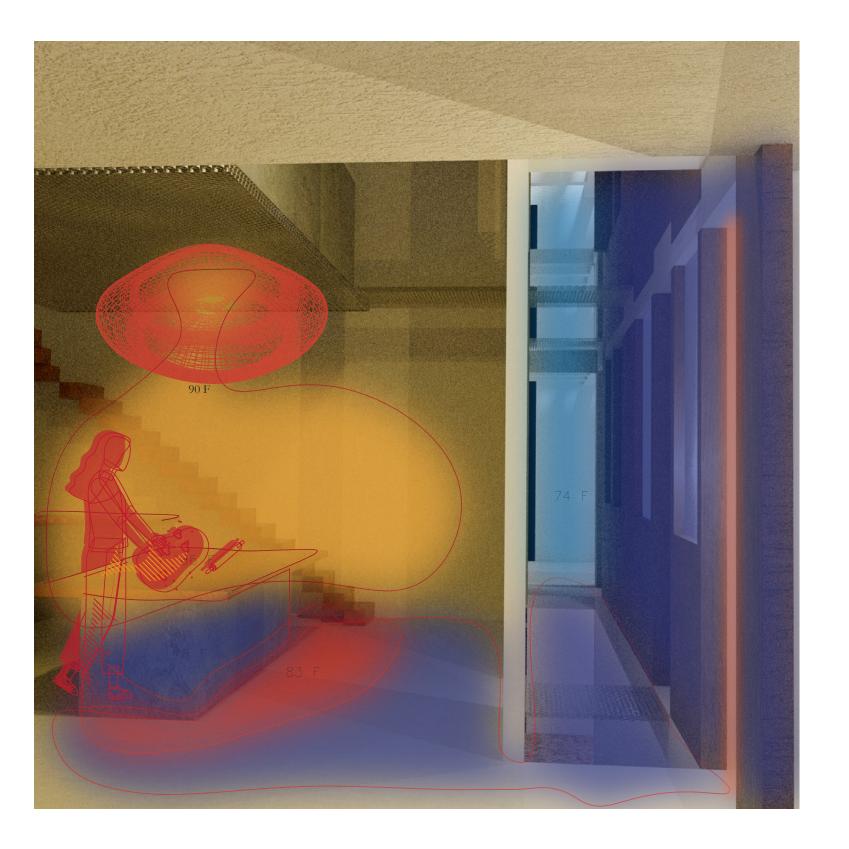


materials within the unit support heat provoked patina and capture prints from the body slowly over time

the body is in constant heat exchange with material surfaces; heat moves from hot to cold



Kitchens are organized within expanded cores, bridges throughout the apartment offereing glimpses at the shared kitchen spaces as they are traversed to enter individual units. Boundary between private and public blurred with fabric screens the buffer between units and shared kitchen spaces



heat exchange abosrbs hot air and redirects to greenhouses in courtyard to thermally regulate edible vegettation, engaging body in circular metabolic process with the architecture

end, but just the beginning