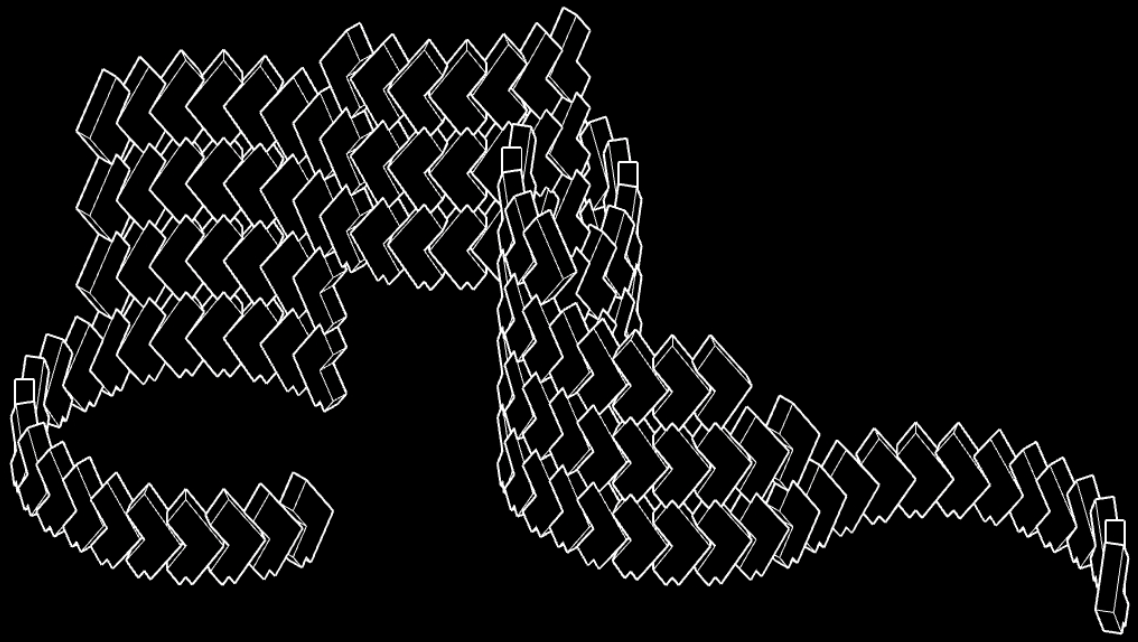

PORTFOLIO

YUXIN HONG
COLUMBIA UNIVERSITY M.S.ADVANCED ARCHITECTURE DESIGN

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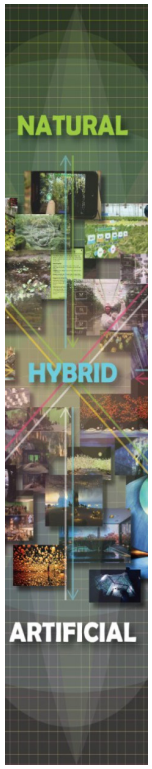
COLUMBIA GSAPP WORKS

CONTENTS



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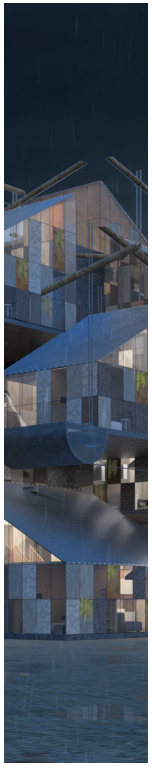


3

IMMERSIVE LANDSCAPES

TYPE: ACADEMIC

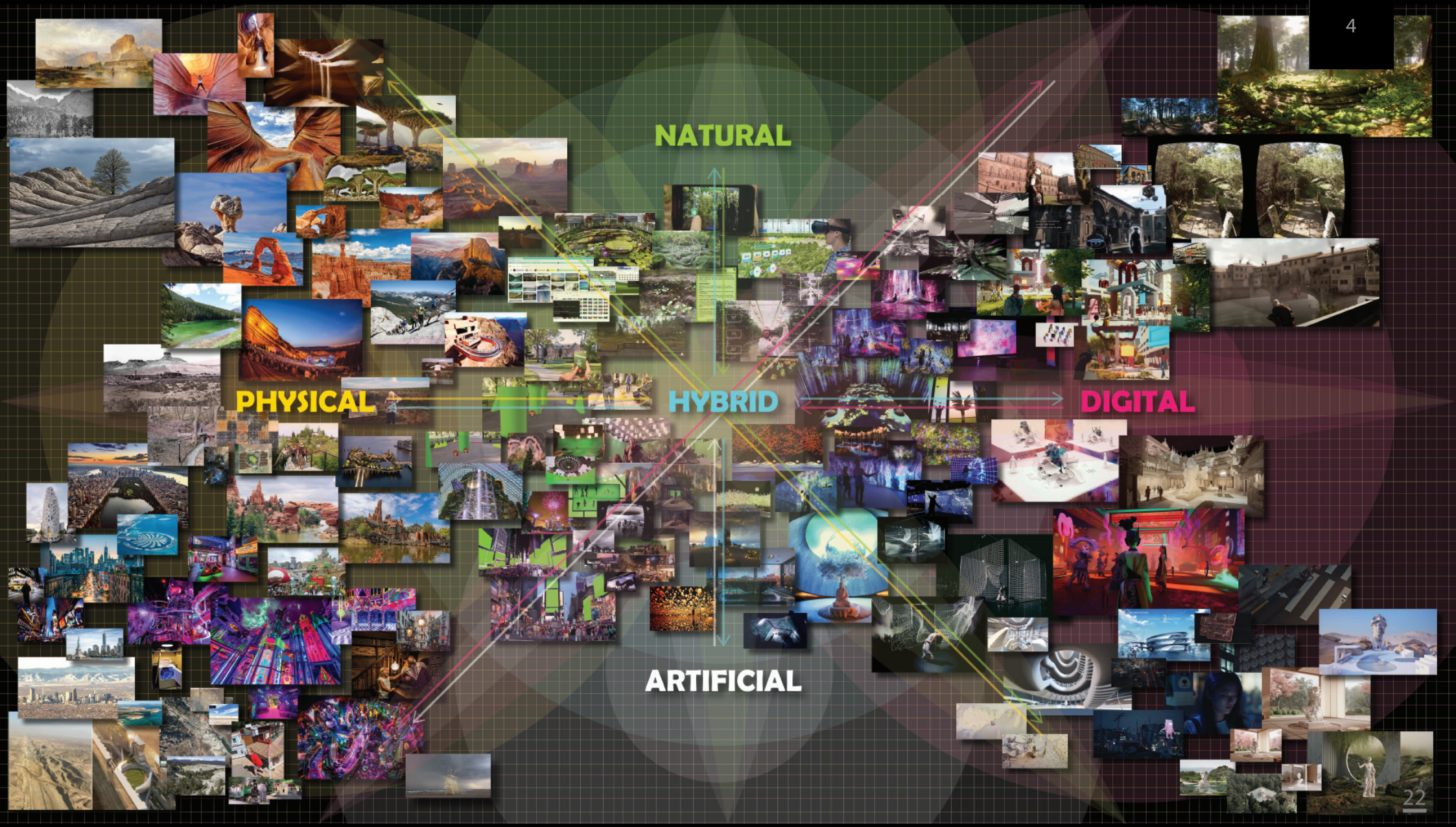
AUTHORSHIP: GROUP (TEAM: YINHUI DONG, QIAN CHEN)

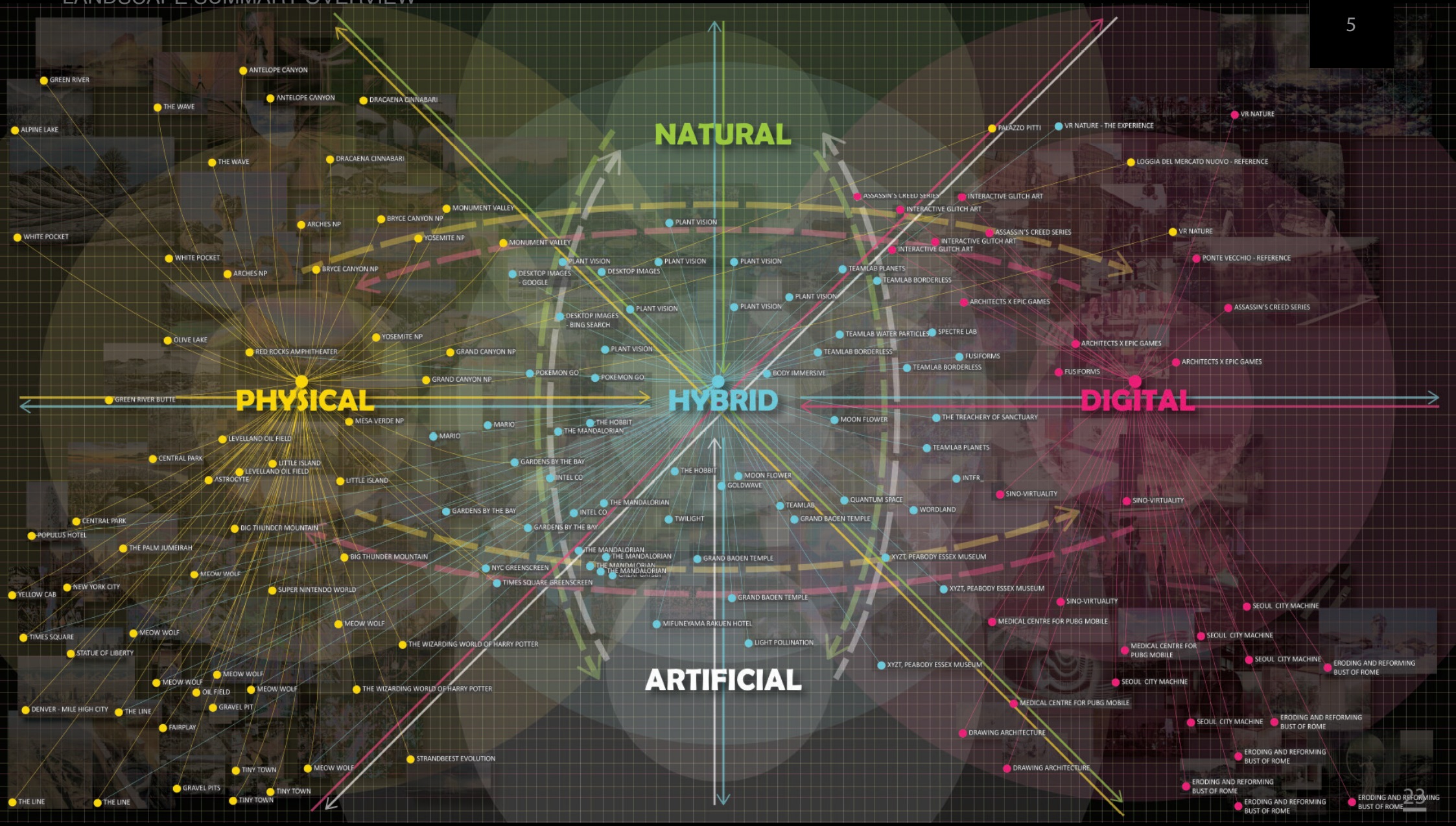
TERM: SUMMER 2024

INSTRUCTOR: MICHIEL HELBIG& CORNEEL CANNAERTS

The project addresses ecological crises by using digital technologies to create immersive "Imagined Landscapes" that foster environmental stewardship and social transformation through virtual engagement with nature.

The ecological crises demand a reevaluation of the boundaries between natural and artificial, grown and made, and wild and controlled. Digital technologies amplify this blurring, challenging distinctions like local versus global and interior versus exterior. This project envisions a future where artificial images drive social change and environmental stewardship. Using tools like AR, VR, game engines, and generative AI, it explores media ecologies that foster nature conservation by redefining the relationship between human activity and natural habitats. Instead of disrupting fragile landscapes, immersive digital recreations allow humans to engage with nature. Drawing from 3D scans, Google Maps, drone footage, and 360-degree cameras, it creates reconstructed virtual landscapes that reflect human-influenced environments. These “Imagined Landscapes” leverage interactive media to challenge traditional representations and inspire new ways to experience and understand nature.


NATURAL
PHYSICAL
HYBRID
DIGITAL
ARTIFICIAL


NATURAL
PHYSICAL
HYBRID
DIGITAL
ARTIFICIAL
GREEN RIVER
ANTELOPE CANYON
THE WAVE
ANTELOPE CANYON
DRACAENA CINNABARI
ALPINE LAKE
THE WAVE
DRACAENA CINNABARI
MONUMENT VALLEY
BRYCE CANYON NP
ARCHES NP
WHITE POCKET
YOSEMITE NP
MONUMENT VALLEY
WHITE POCKET
ARCHES NP
BRYCE CANYON NP
PLANT VISION
PLANT VISION
PLANT VISION
PLANT VISION
DESKTOP IMAGES - GOOGLE
DESKTOP IMAGES
PLANT VISION
PLANT VISION
PLANT VISION
DESKTOP IMAGES - BING SEARCH
PLANT VISION
OLIVE LAKE
YOSEMITE NP
RED ROCKS AMPHITHEATER
GRAND CANYON NP
PLANT VISION
GRAND CANYON NP
POKEMON GO
POKEMON GO
GREEN RIVER BUTTE
MESA VERDE NP
MARIO
MARIO
THE HOBBIT
THE MANDALORIAN
LEVELLAND OIL FIELD
CENTRAL PARK
LITTLE ISLAND
LEVELLAND OIL FIELD
ASTROLYTE
LITTLE ISLAND
GARDENS BY THE BAY
INTEL CO
THE HOBBIT
MOON FLOWER
GOLDWAVE
THE MANDALORIAN
GARDENS BY THE BAY
INTEL CO
TWILIGHT
TEAMLAB
GRAND BAOEN TEMPLE
CENTRAL PARK
POPULUS HOTEL
DIG THUNDER MOUNTAIN
GARDENS BY THE BAY
THE PALM JUMEIRAH
THE MANDALORIAN
BIG THUNDER MOUNTAIN
THE MANDALORIAN
GRAND BAOEN TEMPLE
NYC GREENSCREEN
THE MANDALORIAN
MEOW WOLF
THE MANDALORIAN
TIMES SQUARE GREENSCREEN
YELLOW CAB
NEW YORK CITY
SUPER NINTENDO WORLD
GRAND BAOEN TEMPLE
MEOW WOLF
MIFUNEYAMA RAKUEN HOTEL
TIMES SQUARE
MEOW WOLF
THE WIZARDING WORLD OF HARRY POTTER
LIGHT POLLINATION
STATUE OF LIBERTY
MEOW WOLF
MEOW WOLF
MEOW WOLF
OIL FIELD
MEOW WOLF
THE WIZARDING WORLD OF HARRY POTTER
DENVER - MILE HIGH CITY
THE LINE
GRAVEL PIT
FAIRPLAY
TINY TOWN
MEOW WOLF
STRANDBEEST EVOLUTION
GRAVEL PITS
TINY TOWN
THE LINE
THE LINE
TINY TOWN
PALAZZO PITTI
VR NATURE - THE EXPERIENCE
VR NATURE
LOGGIA DEL MERCATO NUOVO - REFERENCE
ASSASSIN'S CREED SERIES
INTERACTIVE GLITCH ART
INTERACTIVE GLITCH ART
ASSASSIN'S CREED SERIES
INTERACTIVE GLITCH ART
INTERACTIVE GLITCH ART
VR NATURE
PONTE VECCHIO - REFERENCE
TEAMLAB PLANETS
TEAMLAB BORDERLESS
ARCHITECTS X EPIC GAMES
ASSASSIN'S CREED SERIES
TEAMLAB WATER PARTICLES
SPECTRE LAB
ARCHITECTS X EPIC GAMES
TEAMLAB BORDERLESS
FUSIFORMS
ARCHITECTS X EPIC GAMES
TEAMLAB BORDERLESS
FUSIFORMS
BODY IMMERSIVE
MOON FLOWER
THE TREACHERY OF SANCTUARY
TEAMLAB PLANETS
INTFR_
SINO-VIRTUALITY
QUANTUM SPACE
SINO-VIRTUALITY
WORDLAND
XYZT, PEABODY ESSEX MUSEUM
XYZT, PEABODY ESSEX MUSEUM
SINO-VIRTUALITY
SEOUL CITY MACHINE
MEDICAL CENTRE FOR PUBG MOBILE
SEOUL CITY MACHINE
MEDICAL CENTRE FOR PUBG MOBILE
SEOUL CITY MACHINE
ERODING AND REFORMING BUST OF ROME
SEOUL CITY MACHINE
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DRAWING ARCHITECTURE
ERODING AND REFORMING BUST OF ROME
DRAWING ARCHITECTURE
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ERODING AND REFORMING BUST OF ROME

COMPARISON 1

The comparison [illegible] remes shows the shift [illegible] rtificial. As artificial techno[illegible]owerful, we have more ways to create images, and it becomes difficult for us to define the boundary between artificial and natural landscapes.

PHYSICAL NATURAL VS DIGITAL ARTIFICIAL

Project List:
1. Upper Antelope Canyon, Page, AZ
2. The Wave, Coyote Buttes, AZ
3. White Pocket, Kanab, UT
4. Dracaena Cinnabari, Socotra, Yemen
5. Daniel Arsham's The Ares House
6. Andrés Reisinger's virtual house
7. eroding and reforming bust of rome
8. Seoul City Machine trailer, screen capture, Liam Young

COMPARISON 2

There is no inherent natural state or authenticity that defines what is real or genuine. It implies that in our modern technological age, the concept of naturalness is increasingly being redefined or replaced by artificial constructs. What we traditionally consider artificial (created by human intervention or technology) is becoming the new standard or natural state. This could be due to the pervasive influence of technology in shaping our environments, experiences, and perceptions. There is a shift in perception where artificial creations, such as images generated by algorithms or digitally altered content, are becoming normalized and accepted as part of everyday reality. This challenges traditional dichotomies between natural and artificial, suggesting a blending or hybridization of these categories.

Project List:
1. Meow Woof Convergence Station, Denver, CO
2. Tiny Town & Railroad, Morrison, CO
3. The Populus Hotel, Denver, CO
4. Guided Meditation VR
5. Wild—The Experience, incorporates VR scenes
6. VR Nature
7. The replicas of the Temple of Bel's entrance arch
8. 3D carving technique

VIDEO SELECTED LANDSCAPE

IMMERSIVE LANDSCAPES

Cathy Dong, Jasmine Hong, Victoria Chen

SUPERCODUCTING SUPER COLLIDER HOLOBIONT

TYPE: ACADEMIC

AUTHORSHIP: GROUP (TEAM: KEXIN XU,WENYI XU)

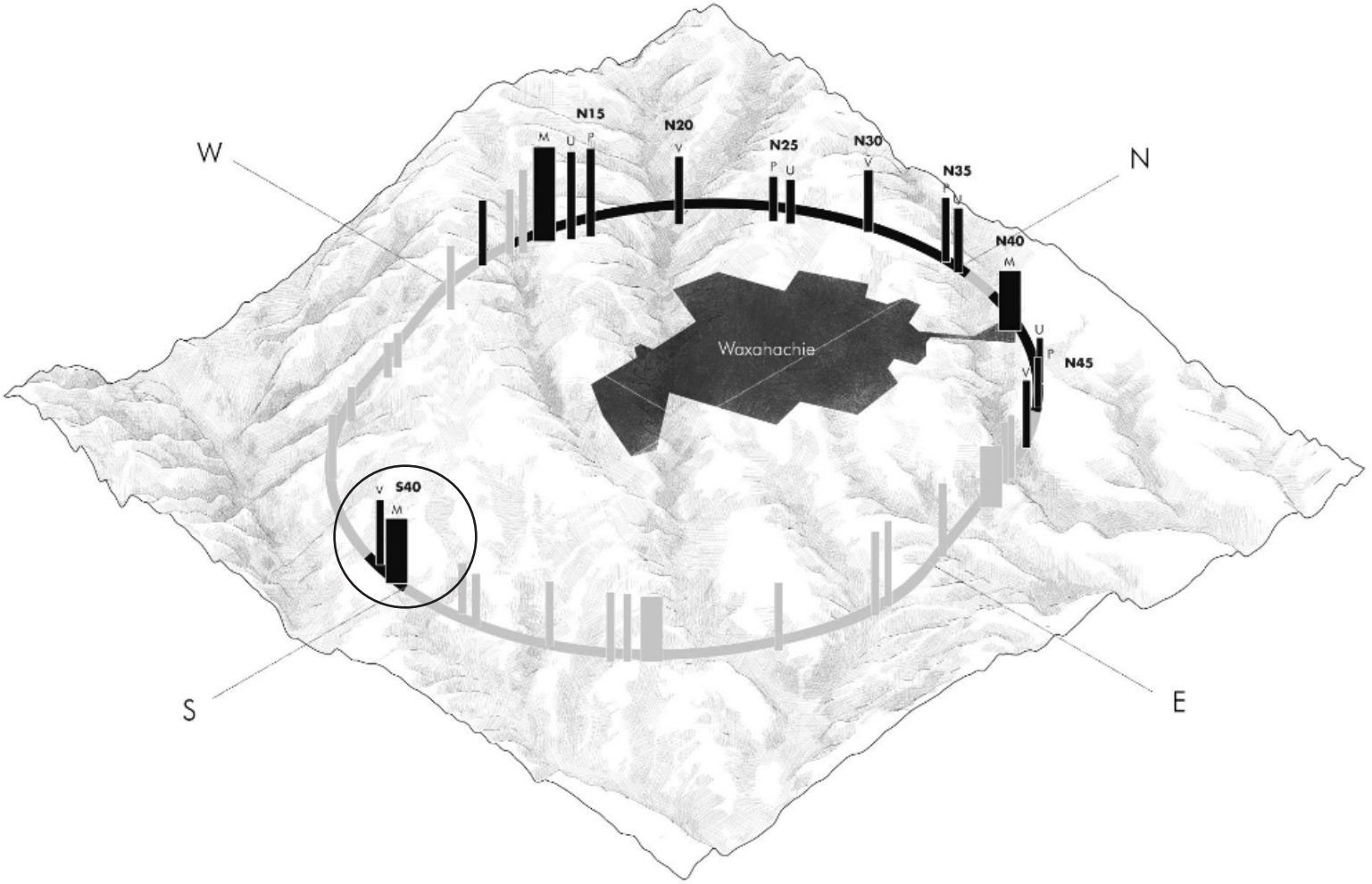
TERM: FALL 2024

INSTRUCTOR: LINDY ROY

The project combines a cooling system and evolving shade design at Shaft S40 to enhance energy circulation, ecological resilience, and sustainable connections.

The Superconducting Supercollider territory functions as a sophisticated information exchange system at both macro and micro scales, facilitating the flow of biotic and abiotic components to sustain ecological balance. Inspired by this interconnected system—where humans, plants, animals, and microorganisms coexist through symbiotic relationships—the project explores innovative strategies to enhance natural energy circulation and ecological resilience. Central to the design is a cooling system that utilizes the site's shafts and underground tunnels to generate cold airflow, drawing inspiration from ancient wind-catching structures in the Gulf Basin. This system incorporates a tower that captures warm air from above, converting it into a cooling mechanism for the surrounding environment. Building on this concept, the intervention at Shaft S40 introduces an evolving shade system that integrates strategic planting and a thoughtfully designed pavilion, designed to adapt over time to promote natural cooling and foster environmental and social connections across the broader territory. By merging architectural and ecological solutions, the project addresses the dual challenges of climate regulation and community engagement, creating a scalable framework for sustainable development. Ultimately, it presents a forward-looking vision of ecological and social integration, contributing to long-term climate adaptation, fostering ecological equilibrium, and serving as a replicable model for environmentally conscious design.

SHAFT S40 SITE ANALYSIS



SHAFTS

M - Magnet
P - Personnel
U - Utility
V - Ventilation

Plan
Complete (14.5 mi)

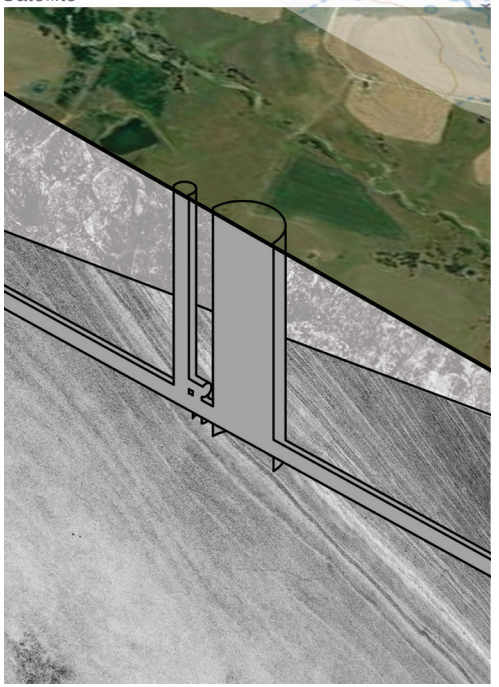
Grasslands
Pasture/Hay
Cultivated Crops
Open Water

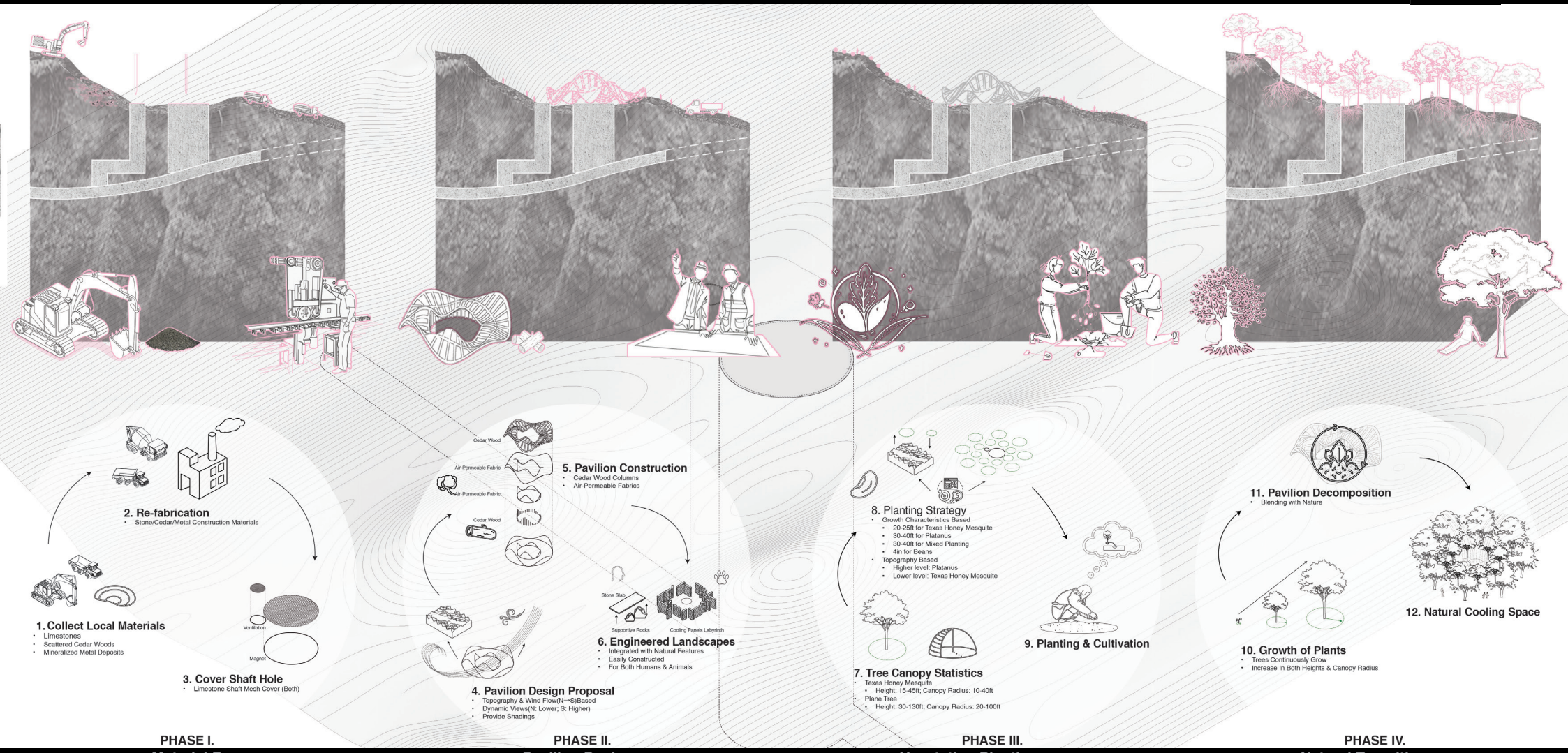
Landcover

Topography

Water Feature

Satellite





PHASE I.

Material Reuse

Locally sourced cedar wood and limestone are repurposed as the construction foundation.

PHASE II.

Pavilion Design

A pavilion above the magnetic shaft integrates cooling panels around the ventilation shaft for efficiency.

PHASE III.

Vegetation Planting

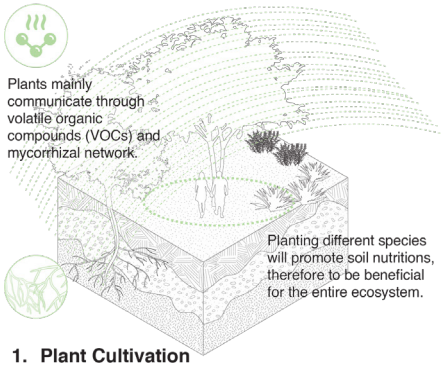
High-transpiration plants are introduced to enhance natural cooling and improve the microclimate.

PHASE IV.

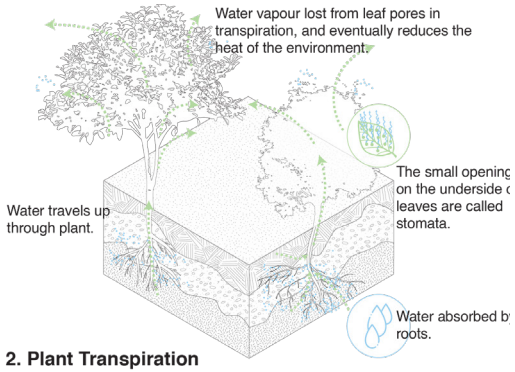
Natural Transition

Over time, the cedar-wood pavilion decomposes, allowing planted trees to mature and take over cooling and shading functions.

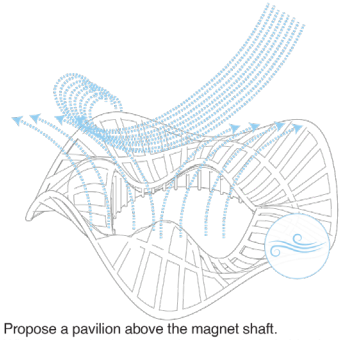
SUSTAINABLE COOLING STRATEGY



1. Plant Cultivation

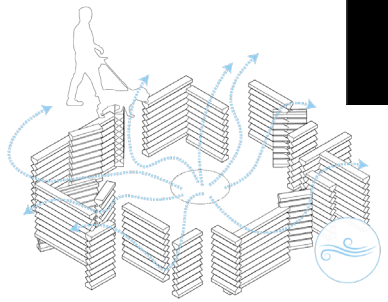


2. Plant Transpiration



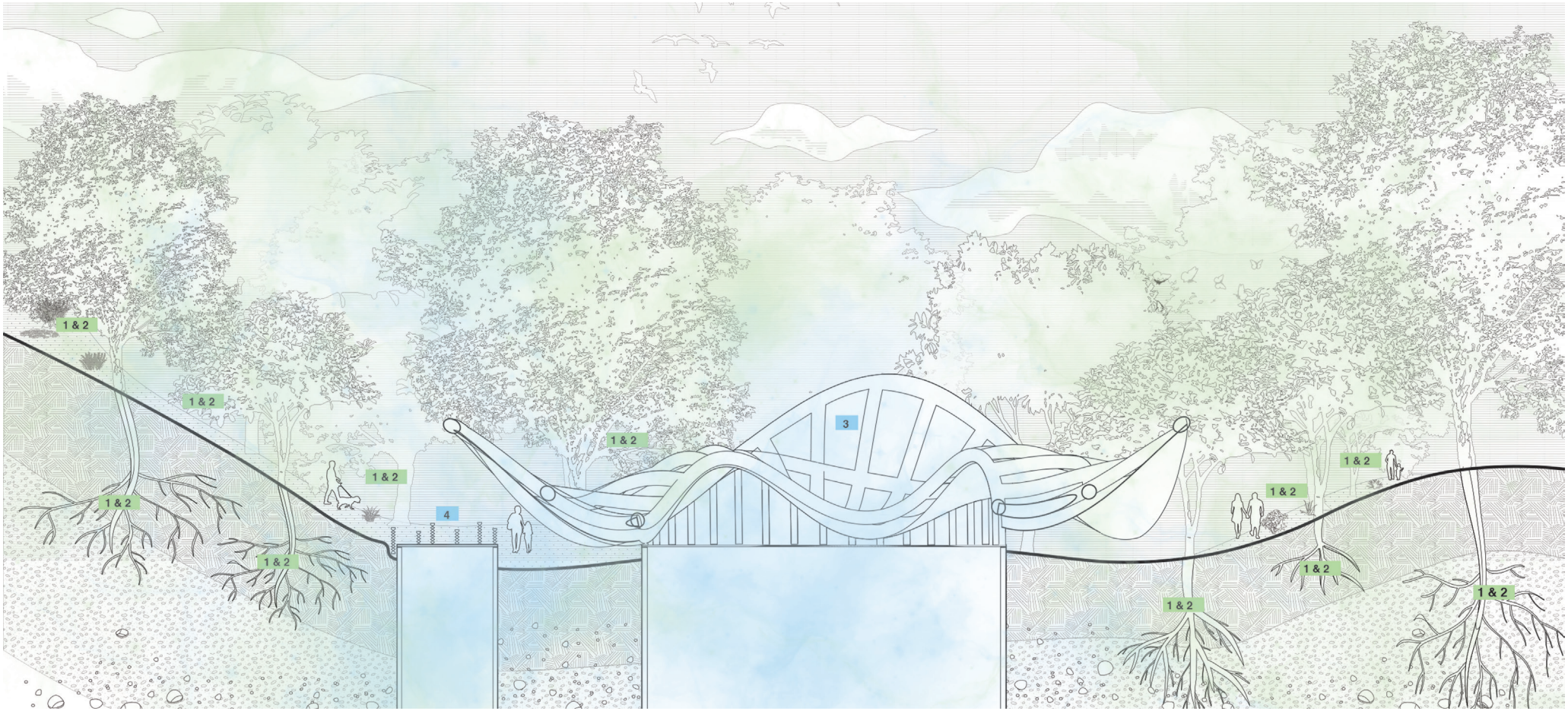
Propose a pavilion above the magnet shaft.
With the terrain sloping northward and winds blowing south, the pavilion's lower north and higher south structure boosts airflow and provides dynamic views.

3. Pavilion Design

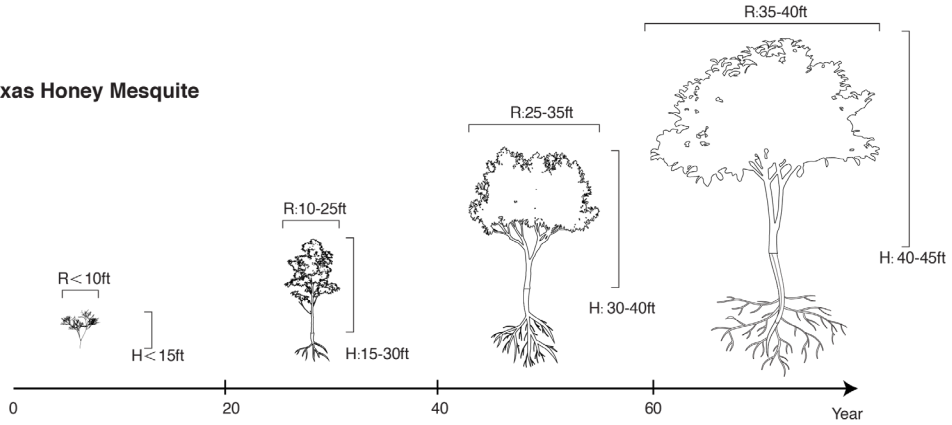


Design a labyrinth-like structure with winding paths to slow down air movement, allowing more time for cooling.

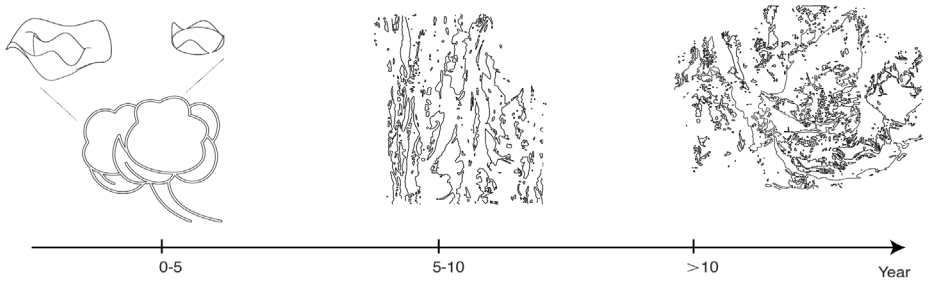
4. Cooling Panel Labyrinth



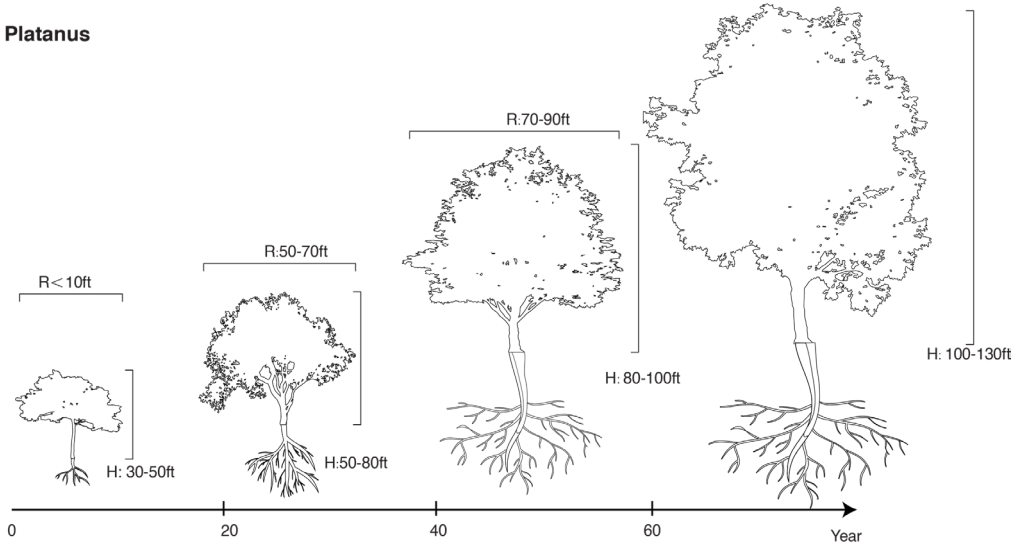
Texas Honey Mesquite



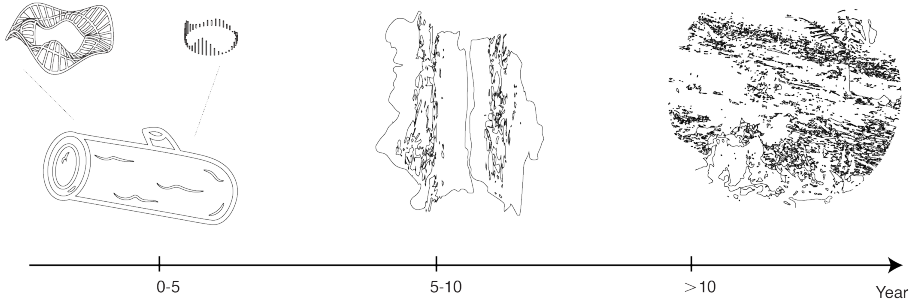
Treated Cotton



Platanus



Cedar Wood



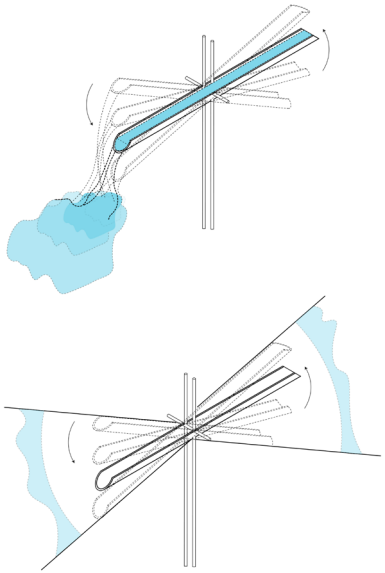

Cooling
Radioactive Planting
Canopy

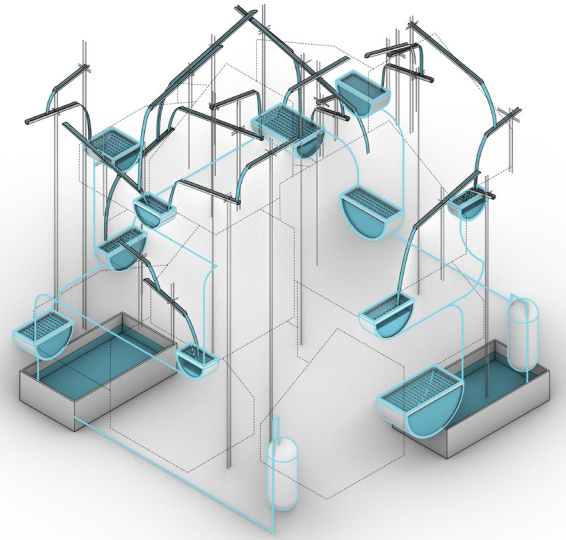
SIPHON SYMPHONY

TYPE: ACADEMIC
AUTHORSHIP: INDIVIDUAL
TERM: SPRING 2025
INSTRUCTOR: LYDIA KALLIPOLITI

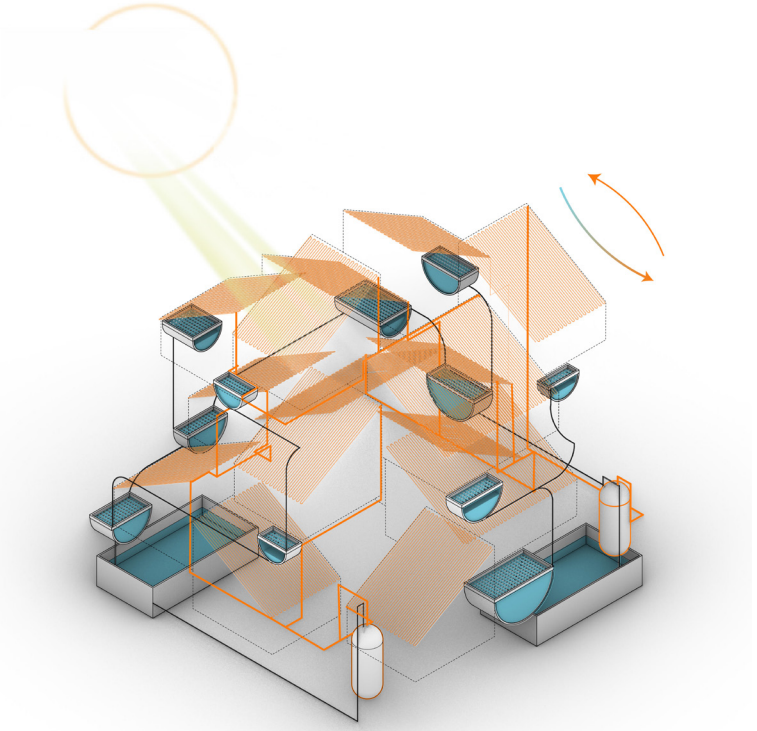
This building uses siphoning techniques inspired by Athens to create an energy-efficient, climate-responsive system where water and heat interact dynamically to enable natural heating, cooling, and ventilation.

This building integrates siphoning techniques common in Athens to form a self-regulating system for heating, cooling, and ventilation. By harnessing natural water flow and thermal exchange, it reduces reliance on mechanical systems and instead uses passive strategies to create comfortable microclimates. The design minimizes energy use and carbon emissions, reimagining urban infrastructure as a living system in harmony with natural forces. It offers a sustainable model for water and energy management, promoting ecological balance and climate-responsive urban living.

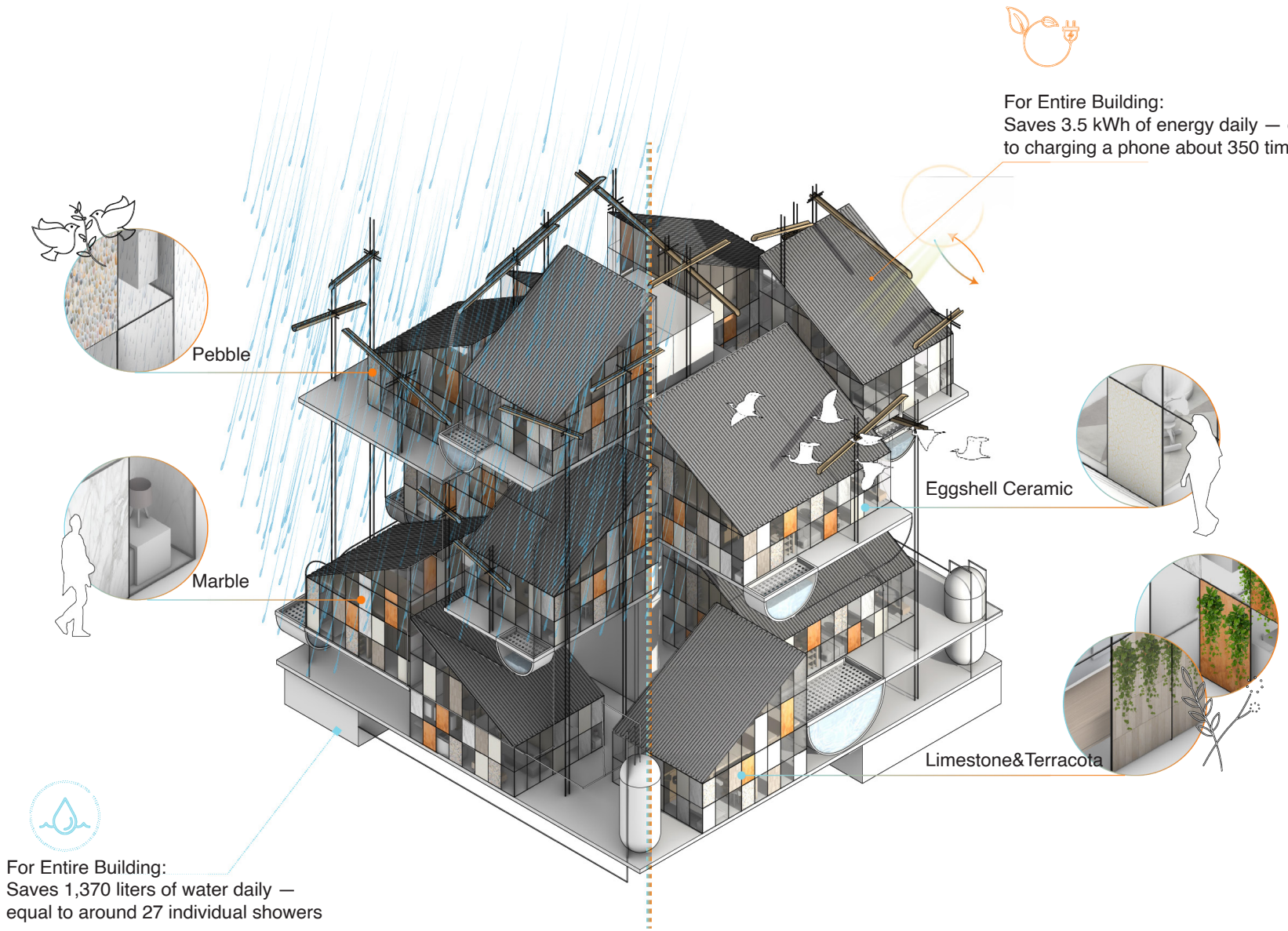


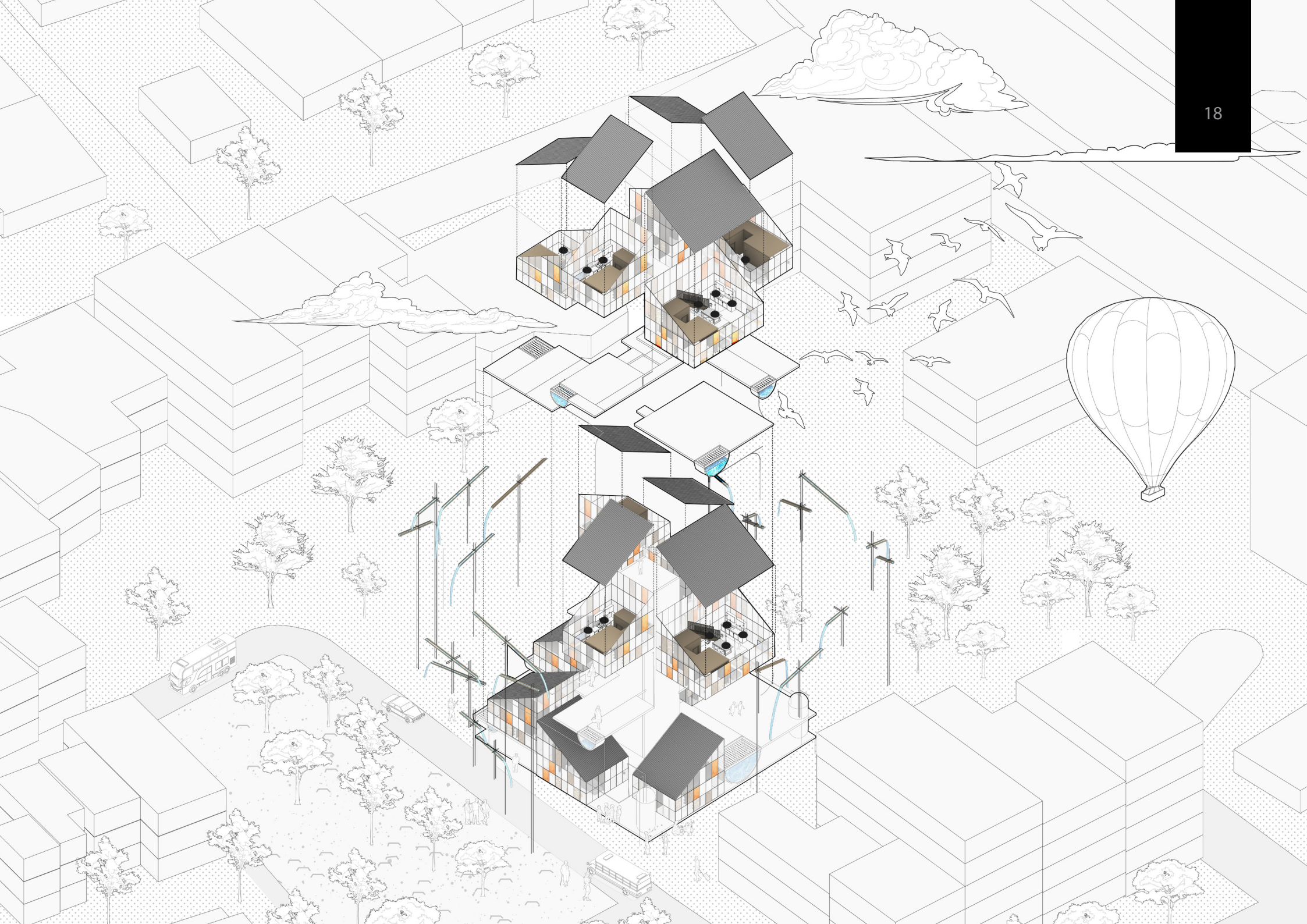


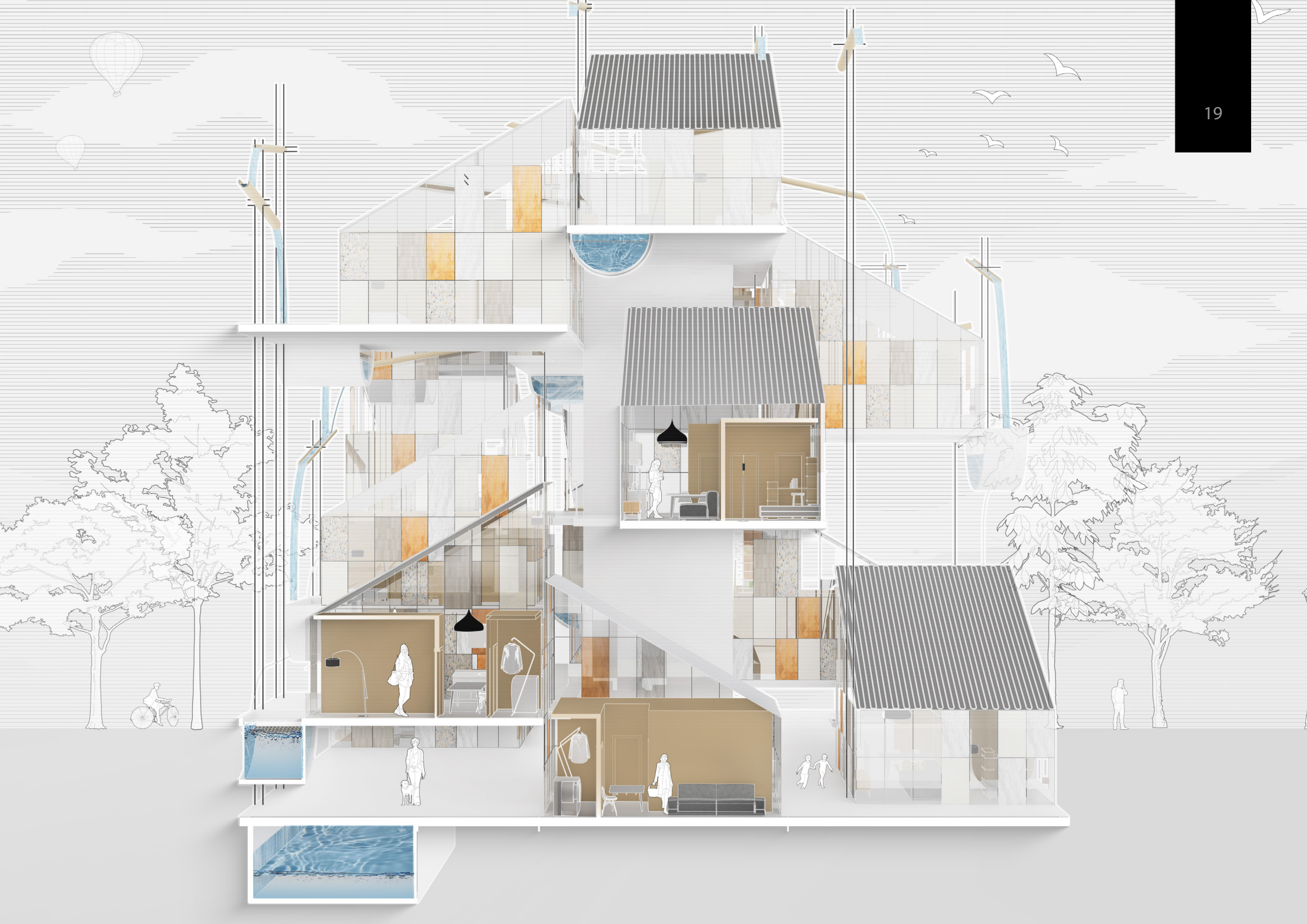
Rainwater is collected through bamboo spouts, filtered via semi-circular containers, and then directed into underground reservoirs.

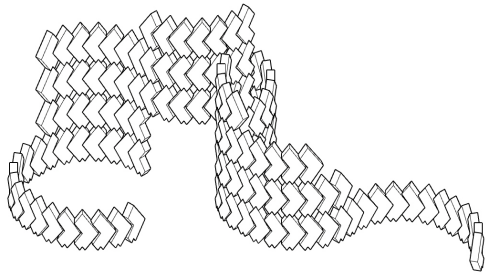


Water is pumped uphill using siphon and thermosiphon principles, then distributed to individual housing units.


For Entire Building:
Saves 3.5 kWh of energy daily — equivalent
to charging a phone about 350 times
Pebble
Marble
Eggshell Ceramic
Limestone&Terracota
For Entire Building:
Saves 1,370 liters of water daily —
equal to around 27 individual showers







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