

TING-WEI SHIH
GSAPP PORTFOLIO

MS.AAD Selected Works 2022-2023

SIMPLE BUT POWERFUL

“My ultimate career goal is to master the art of utilizing simple yet powerful design elements while incorporating local architectural techniques. By studying indigenous methods, I can create designs that are visually striking, sensitive to the local environment, and foster a connection between the built environment and the people who inhabit it.

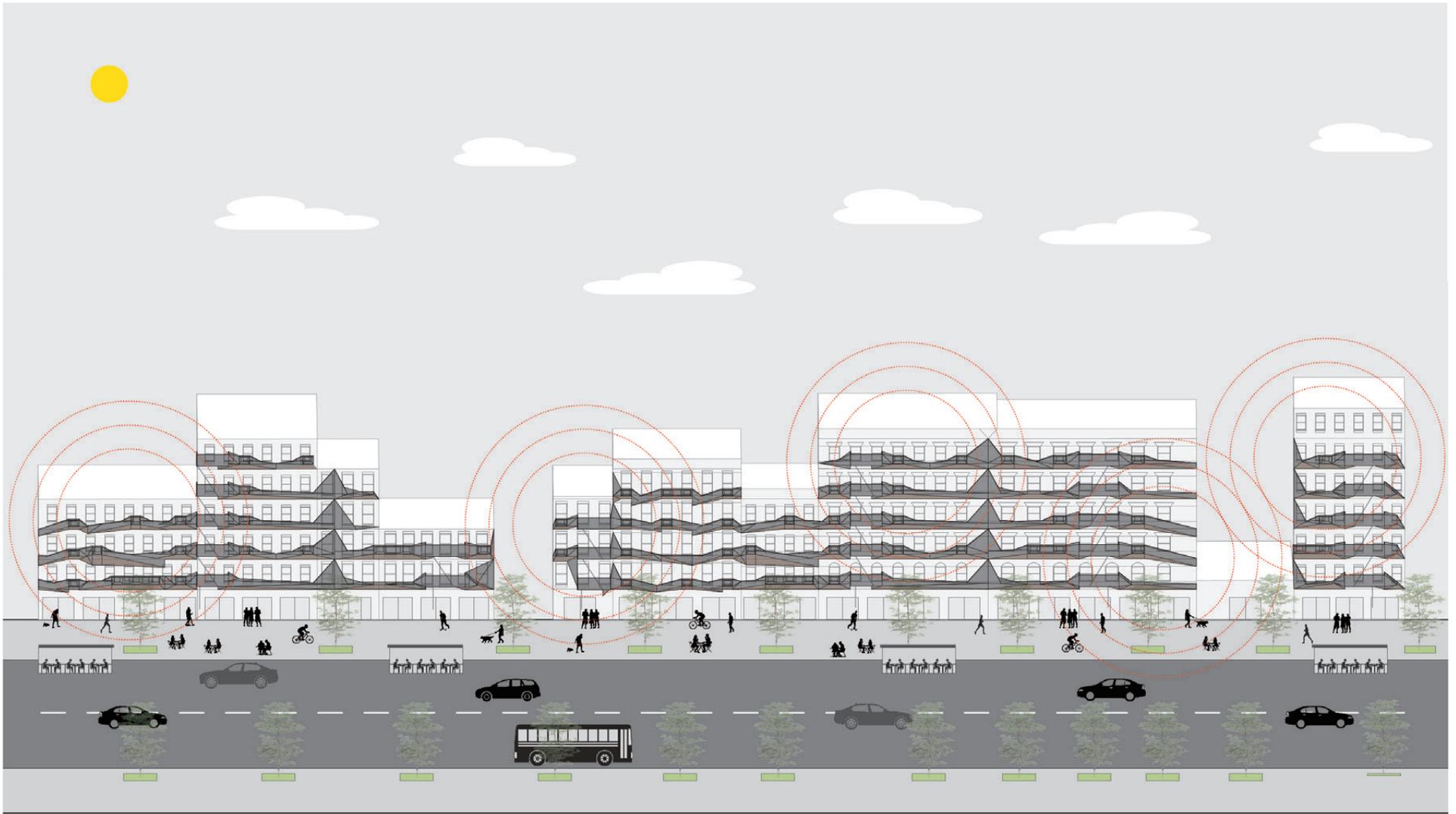
Incorporating local techniques will involve researching traditional building practices, materials, and technologies, as well as seeking guidance from local experts and community members. This will enable me to create designs that are sustainable, cost-effective, and contextually appropriate, while also promoting the preservation and evolution of local architectural knowledge.

My education from GSAPP, commitment to using simple but powerful design elements, and dedication to local architectural techniques will equip me to create innovative and contextually-responsive spaces with a positive and lasting impact on individuals and communities. This holistic approach will ensure that my work addresses functional, aesthetic, and cultural requirements while contributing to environmental sustainability.”

-Ting-Wei Shih

CONTENT

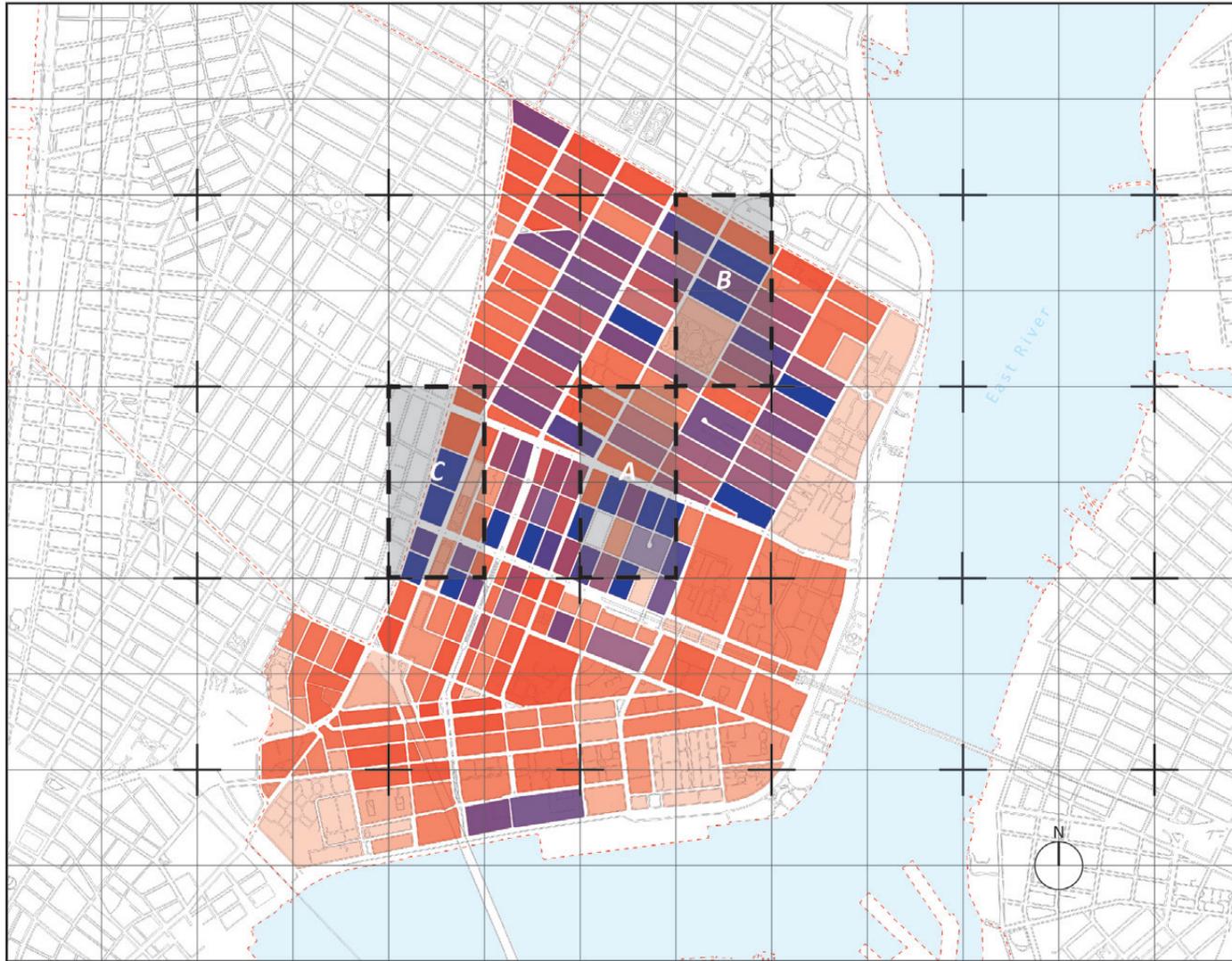
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HIDDEN NOISE

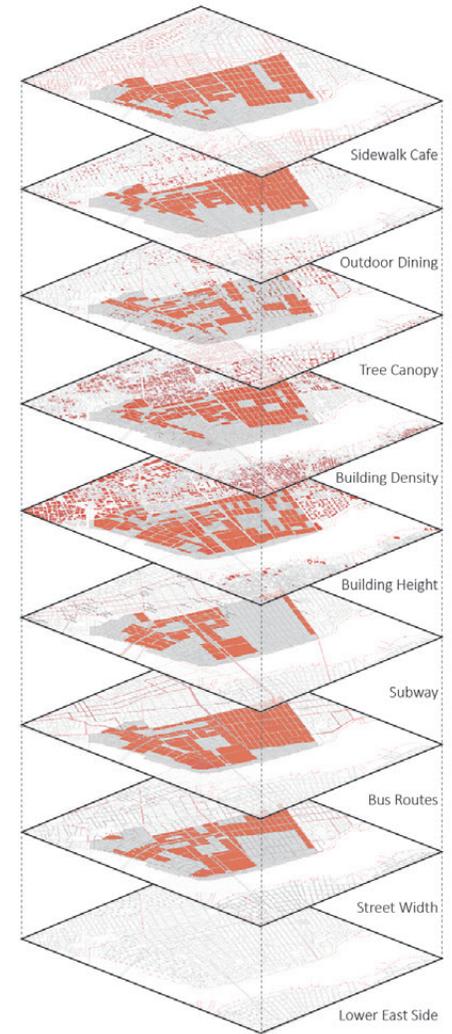
Project Type : Academic (Individual)
 Program : Street Infrastructure/Facade Installation
 Instructors : Ersela Kripa & Stephen Mueller/AGENCY Architecture
 Date : Summer 2022
 Location : New York, USA

New York City has long grappled with significant noise pollution issues. Research conducted using NYC Open Data reveals that noise complaints within the city have been steadily increasing each year. This study aims to examine the inequitable distribution of noise prevention measures implemented by the New York City government, highlighting the need for more inclusive and effective strategies.



Red (Noise Pollution Blocks) + Blue (E-Designation) = Purple (Research Areas)

MAPPING OF NOISE POLLUTION



DESIGN ISSUES



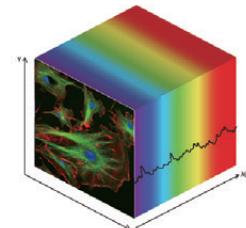
Noise Pollution



NYC 311 Complaints



SUBJECTIVE BIASED



Multispectral Technology

Facade Installation

To pursue an objective way, this project applies multispectral technologies to physically classify the materials and geometry of building facades and find out the "sound-absorbing weak points" on the facade.

NYC Government overly relies on noise complaints reports to improve the environment.

Complaints usually have too many subjective factors, including bad personality and bias, which will influence the correct improvements in noise prevention.

BUILDINGS/FACADE NOISE POLLUTION

SITE A

SITE B

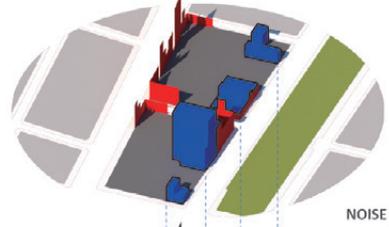
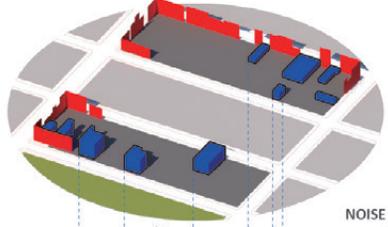
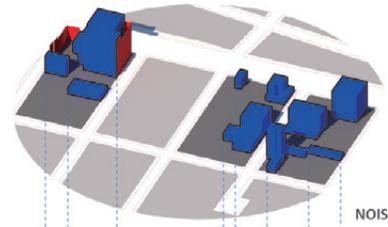
SITE C

COLUMBIA GSAPP PORTFOLIO

COLUMBIA GSAPP PORTFOLIO

SIGNATURE URBANISMS

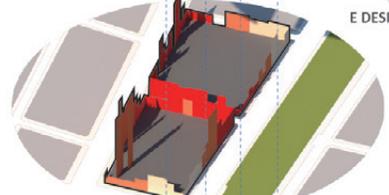
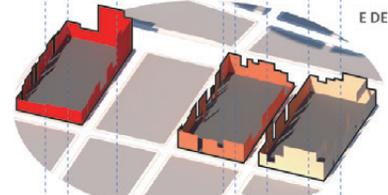
SIGNATURE URBANISMS



NOISE POLLUTION FACADE + E DESIGNATION

NOISE POLLUTION FACADE + E DESIGNATION

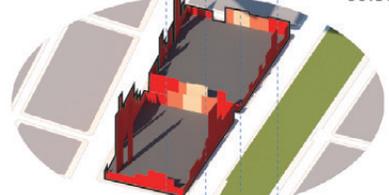
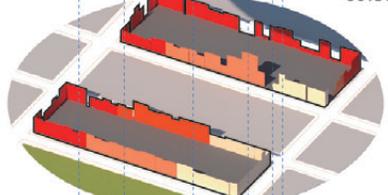
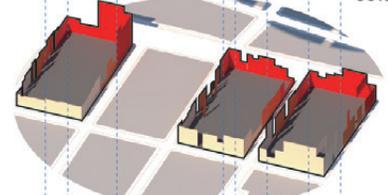
NOISE POLLUTION FACADE + E DESIGNATION



FACADE NOISE POLLUTION OUTDOOR ACTIVITIES

FACADE NOISE POLLUTION OUTDOOR ACTIVITIES

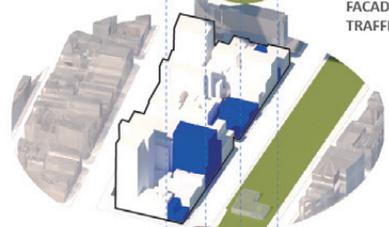
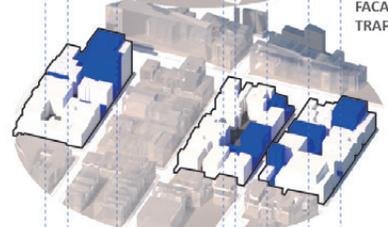
FACADE NOISE POLLUTION OUTDOOR ACTIVITIES



FACADE NOISE POLLUTION TRAFFIC NOISE

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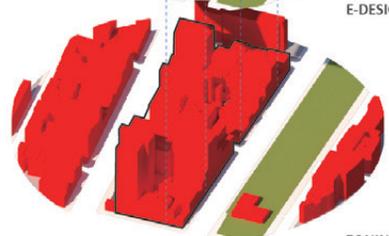
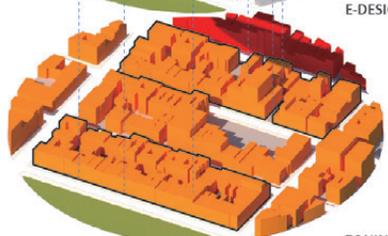
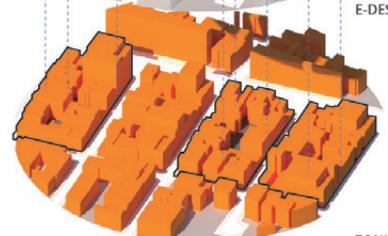
FACADE NOISE POLLUTION TRAFFIC NOISE



E-DESIGNATION

E-DESIGNATION

E-DESIGNATION



ZONING

ZONING

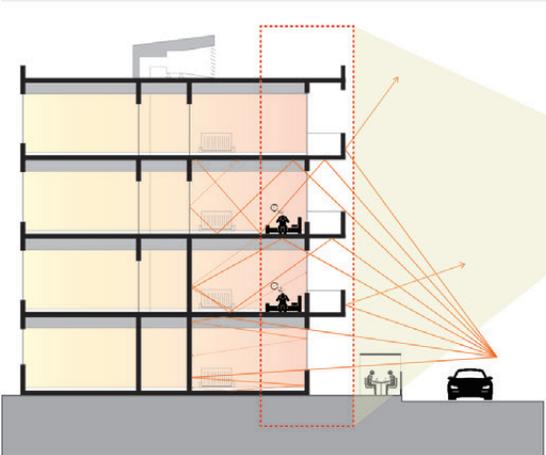
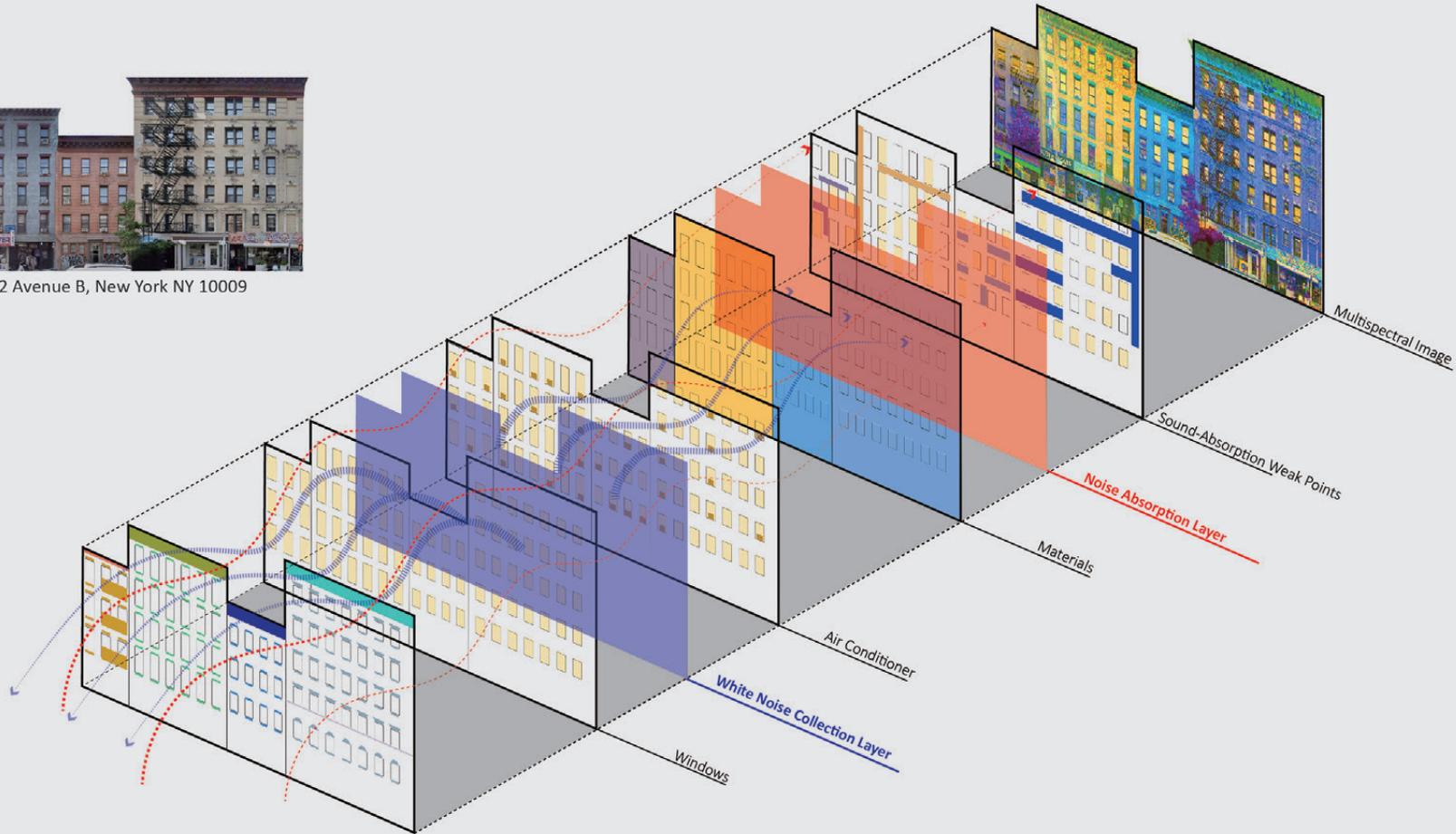
ZONING

In assessing facade noise pollution, my objective is to identify E-Designation buildings that are exposed to elevated noise levels from street activity. To achieve this, I will isolate building facades located in areas with high noise pollution and incorporate additional data on traffic and outdoor activities. This approach will enable me to pinpoint the building surfaces that are subject to the most significant noise impact.

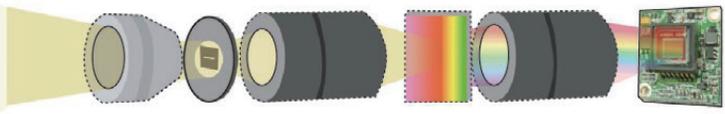
MULTISPECTRAL TECHNOLOGY



Location: 204-212 Avenue B, New York NY 10009



MULTISPECTRAL CAMERA

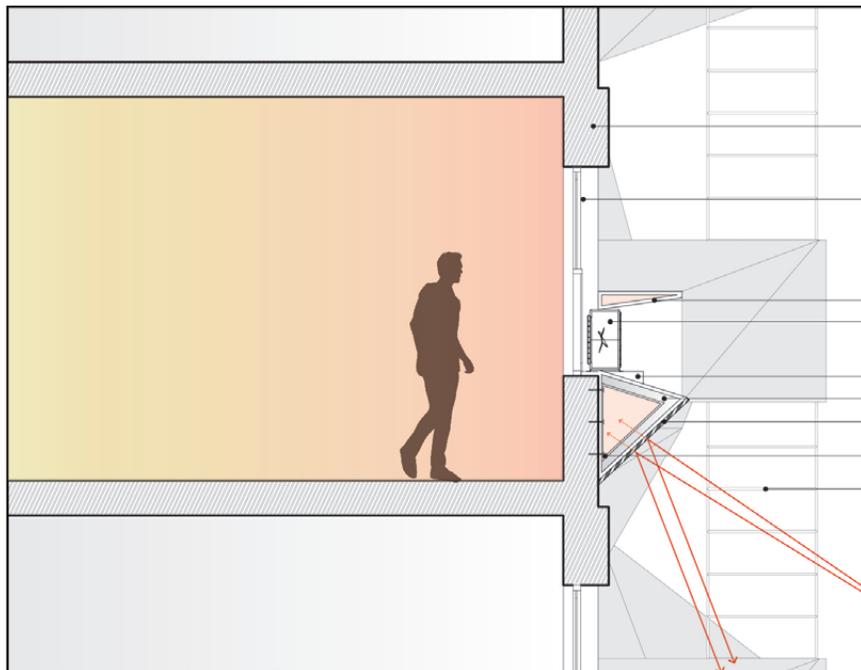


In this stage, I'm finding multispectral technologies which can assist in analyzing the facade's geometry and materials. Because of Lidar's colorful reflection, these two multispectral technologies can showcase the form of geometry and different types of material. The multispectral image showcases multiple layers of the building facade, including the Shading System, Windows, Air conditioning machines, and Materials. By overlapping those layers, I can get the image of sound absorption weak points.



The primary strategy is to create a layer to prevent the noise from traveling into the sound absorption weak points. I decide to collect the white noise from the existing outdoor air condition machines to produce a white noise layer that can promote residents' noise tolerance and reduce the uncomfortable feeling of street noise.

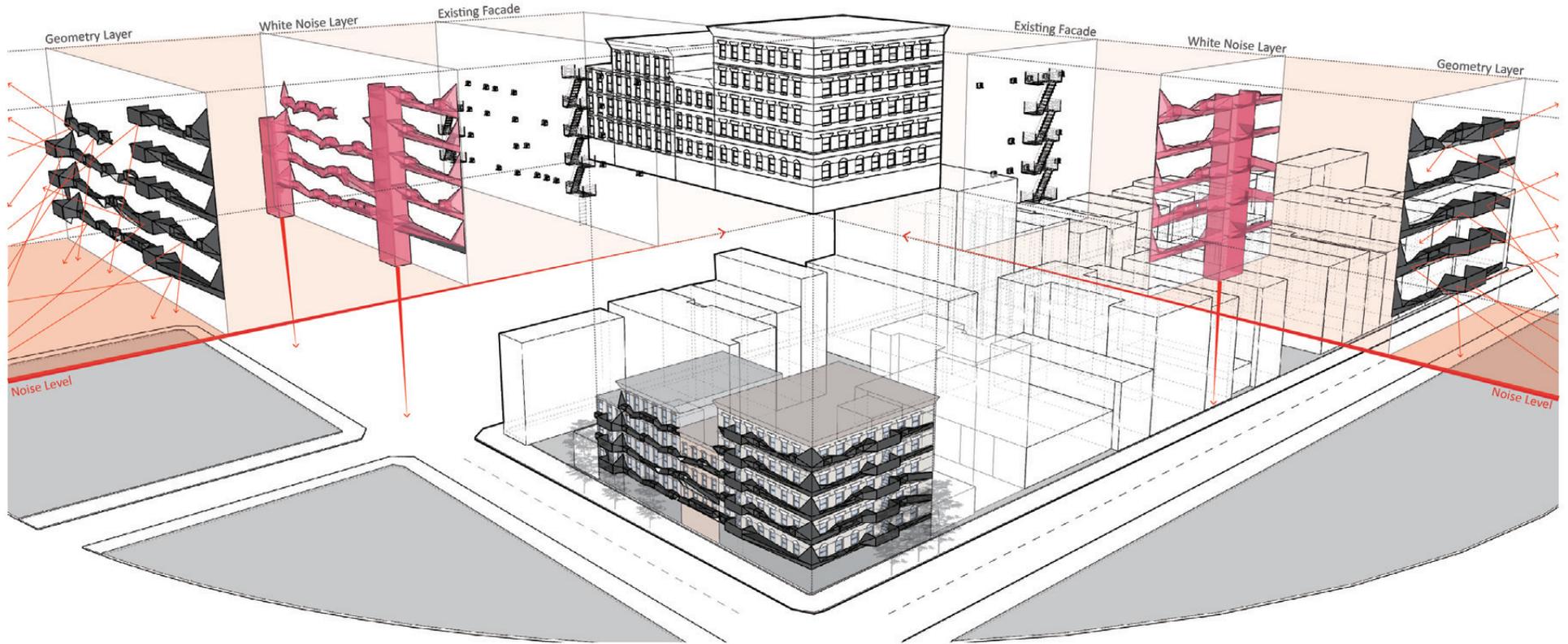
WHITE NOISE SHARING



- Concrete Wall
- Window
- Aluminum Air Condition Machine
- Air Condition Shelf
- Double-tube Space
- CLT Timber
- Nail
- Fire Escape

WHITE NOISE FACADE

I used the condition of the location of the existing air units on the facade to connect them into many white noise layers. Then, the vertical distribution of the fire escape to the street was used to share the white noise with the residents and passersby. The variable geometry attenuates the direct noise from the street. In addition, I use metallic materials as a medium for the transmission of white noise layers and wooden materials to mitigate the noise in the street direction. In the structure, I use air tube and double tube structures to amplify or adjust the vibration of white noise.



URBAN WALL

Using the same formulation from existing construction, the white noise wall installation could be a prototype for the whole city. From building to block and even wholly urban, the impact of this design will redefine the concept between private and public. The white noise vibration generated by the outdoor air-conditioning unit can be used as a public facility that can be shared, not only for the private house to resist the noise from the outside but also for the public street to provide a comfortable white noise environment.



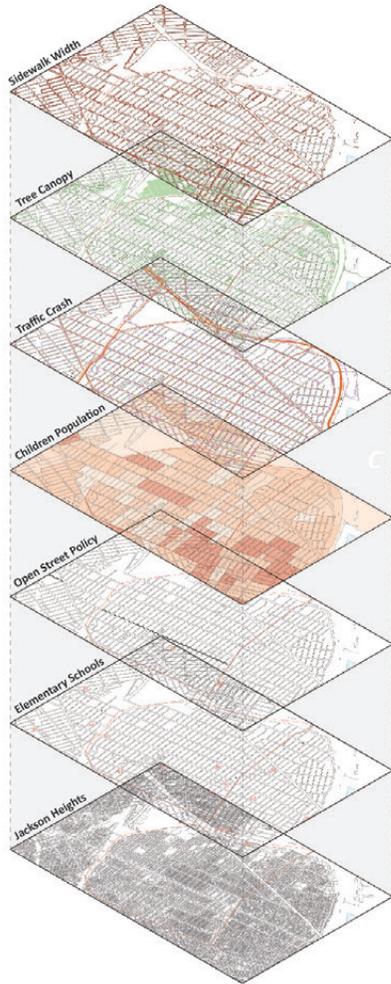
URBAN TREE HOUSES

Project Type : Academic (Individual)
 Program : Street Infrastructure / Public Space
 Instructor : Jing Liu / SO-IL
 Date : Fall 2022
 Location : New York, USA

The scarcity of spaces for children's activities in Jackson Heights, New York has the potential to result in intellectual and psychological developmental shortfalls. This project investigates the possibility of integrating "Urban Tree Houses" as a means for children to engage with nature despite the constraints imposed by limited street infrastructure. The "Urban Tree Houses" concept utilizes scaffolding provided by the New York Department of Transportation (DOT) to create innovative spaces for children's activities. This approach aims to foster a connection with nature and promote healthy development, even within the confines of limited street infrastructure.

MAPPING OF POTENTIAL STREET PLAYGROUND

COLUMBIA GSAPP PORTFOLIO



THE STREET STUDIO



COLUMBIA GSAPP PORTFOLIO

THE STREET STUDIO

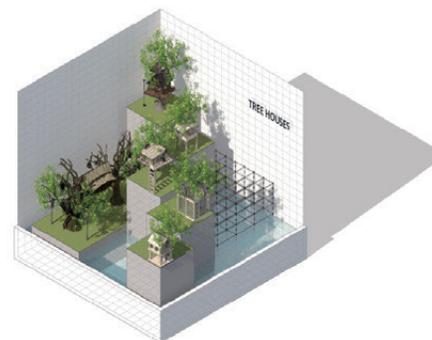
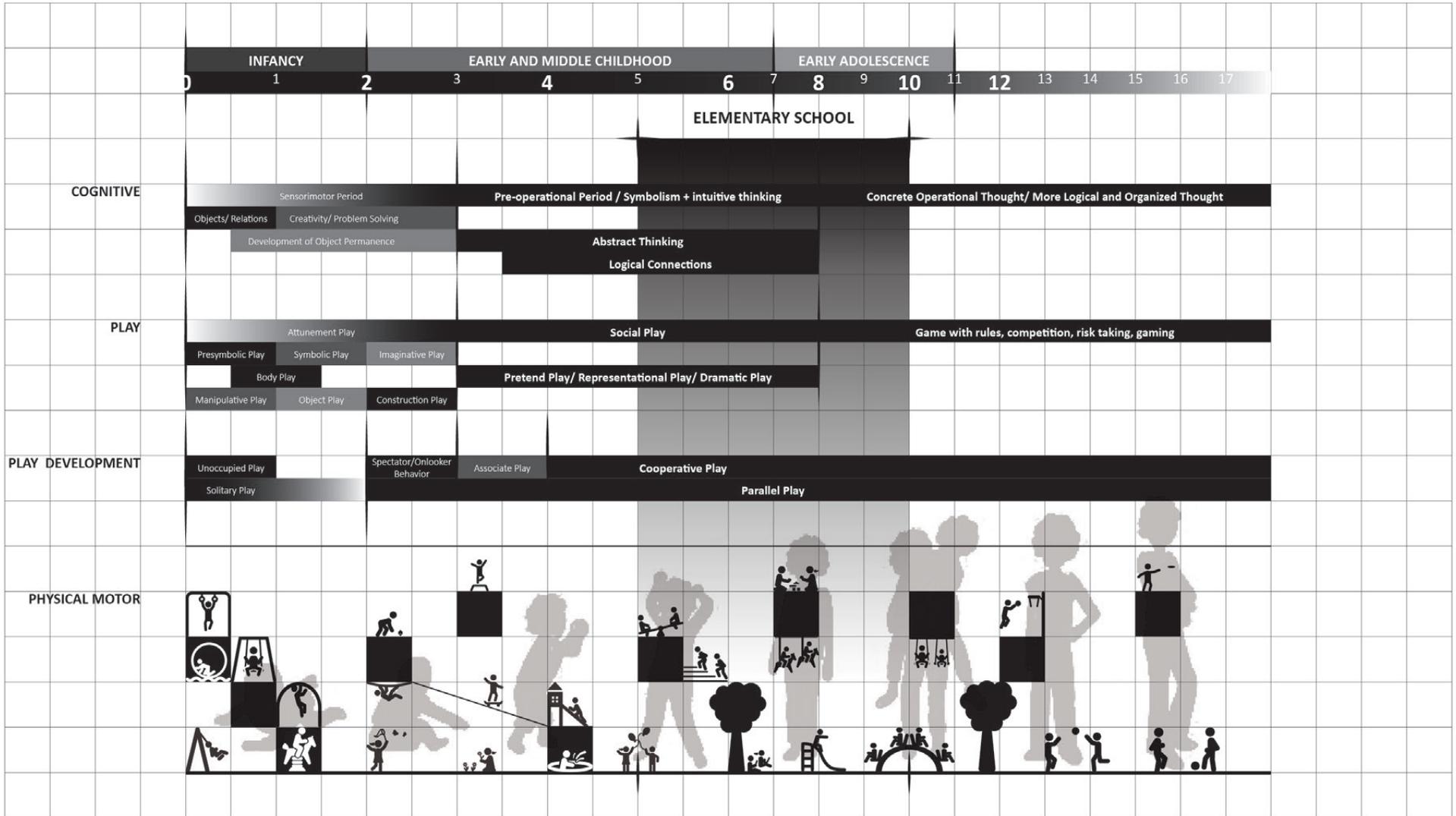


JACKSON HEIGHTS LACKS CHILDREN'S PLAYGROUND

Jackson Heights' Unacceptable Playground Higher than 25%. Currently, there are just four playgrounds for every 10,000 children in Jackson Heights. "Playgrounds are essential public spaces, offering children a place to socialize, learn, be active, and exercise their imaginations," Stringer said. "That's why our City needs to overhaul our playground system's planning, construction, and maintenance."

OPEN STREET POLICY & POTENTIAL STREET PLAYGROUND

As a result of the Covid epidemic, New York City began to implement the Open Street Policy, a policy that has allowed the streets to once again be used for children's activities. I used data published by NYC Open Data (street width, tree canopy size, crash records, child population, elementary school locations) to identify sidewalks that have the potential to become playgrounds for children on the street.



CHILDREN'S DEVELOPMENT / NATURAL ENVIRONMENT

According to Piaget's theory of child psychological development, children's observations of the landscape around them are more detailed and nuanced than those of adults during the elementary school years (5-9 years old). Nowadays, cities have undergone an over-civilization of human beings. People no longer know what nature is. For me, any outdoor walk or play should be integrated with the natural environment. However, it is somewhat unrealistic to dismantle most of the nature obtained by urban construction. So I will piece together and design a new "urban natural" environment using natural elements that have been shaped by humans in the city.

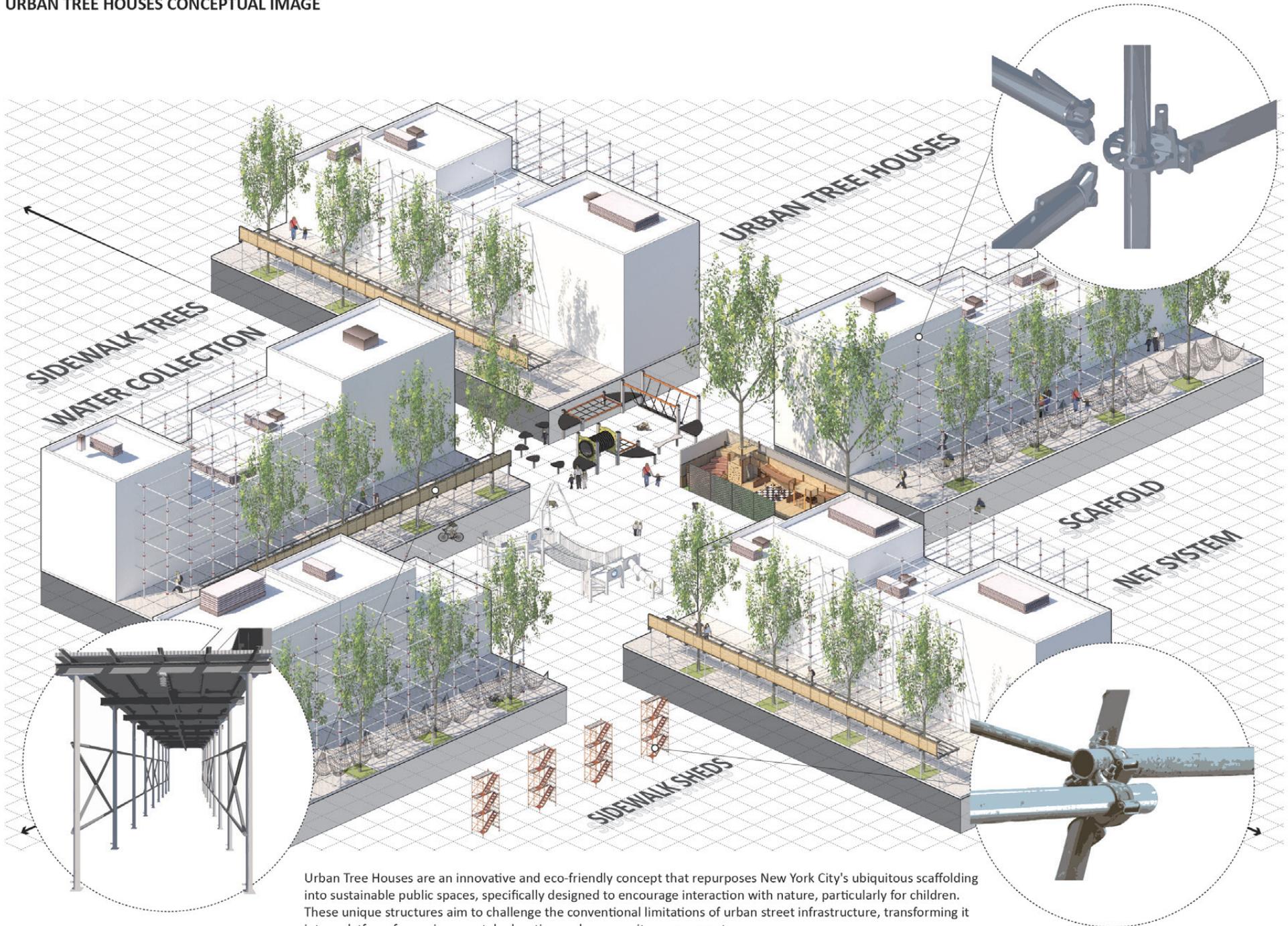
URBAN TREE HOUSES CONCEPTUAL IMAGE

COLUMBIA GSAPP PORTFOLIO

COLUMBIA GSAPP PORTFOLIO

THE STREET STUDIO

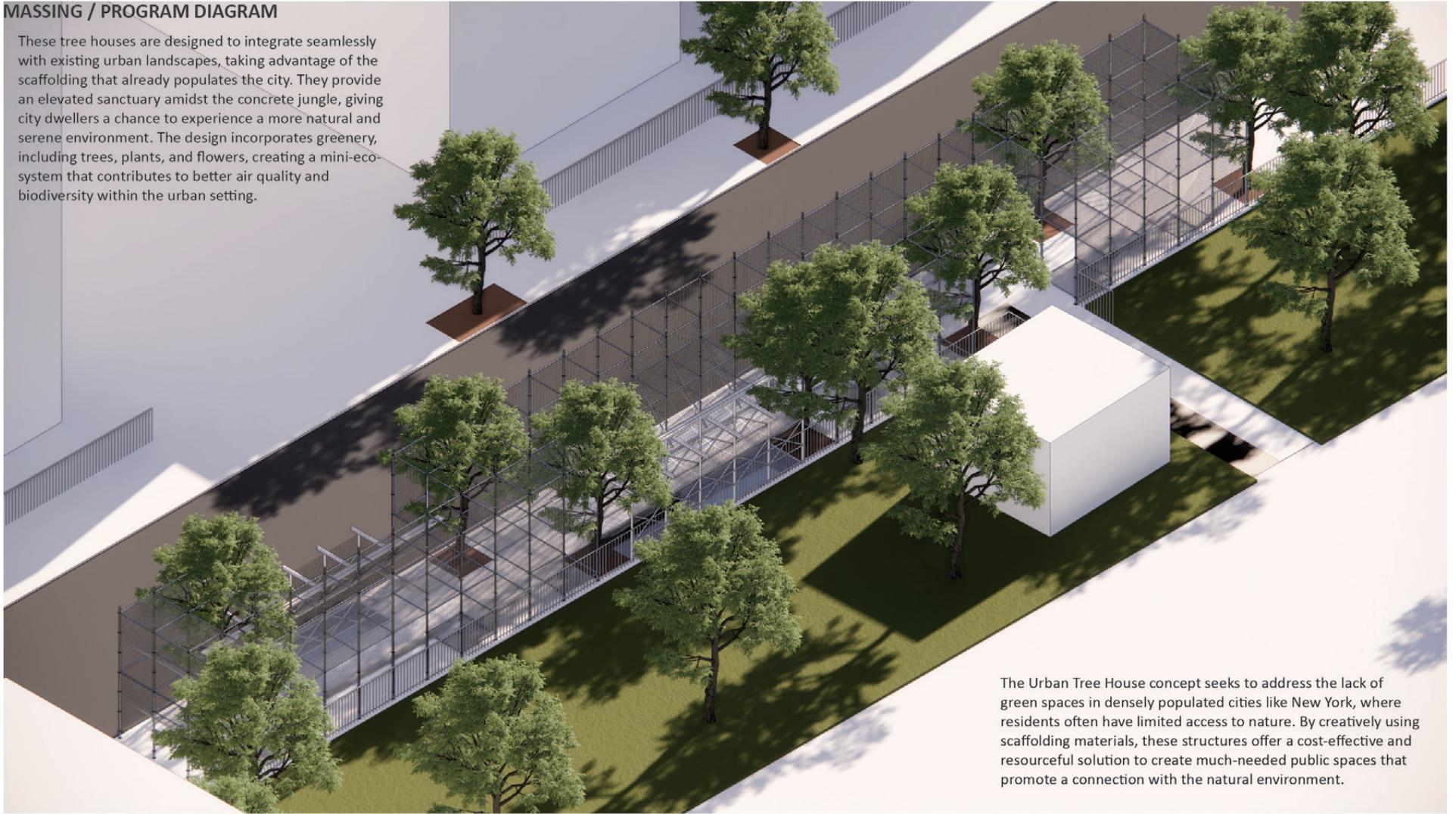
THE STREET STUDIO



Urban Tree Houses are an innovative and eco-friendly concept that repurposes New York City's ubiquitous scaffolding into sustainable public spaces, specifically designed to encourage interaction with nature, particularly for children. These unique structures aim to challenge the conventional limitations of urban street infrastructure, transforming it into a platform for environmental education and community engagement.

MASSING / PROGRAM DIAGRAM

These tree houses are designed to integrate seamlessly with existing urban landscapes, taking advantage of the scaffolding that already populates the city. They provide an elevated sanctuary amidst the concrete jungle, giving city dwellers a chance to experience a more natural and serene environment. The design incorporates greenery, including trees, plants, and flowers, creating a mini-ecosystem that contributes to better air quality and biodiversity within the urban setting.



The Urban Tree House concept seeks to address the lack of green spaces in densely populated cities like New York, where residents often have limited access to nature. By creatively using scaffolding materials, these structures offer a cost-effective and resourceful solution to create much-needed public spaces that promote a connection with the natural environment.

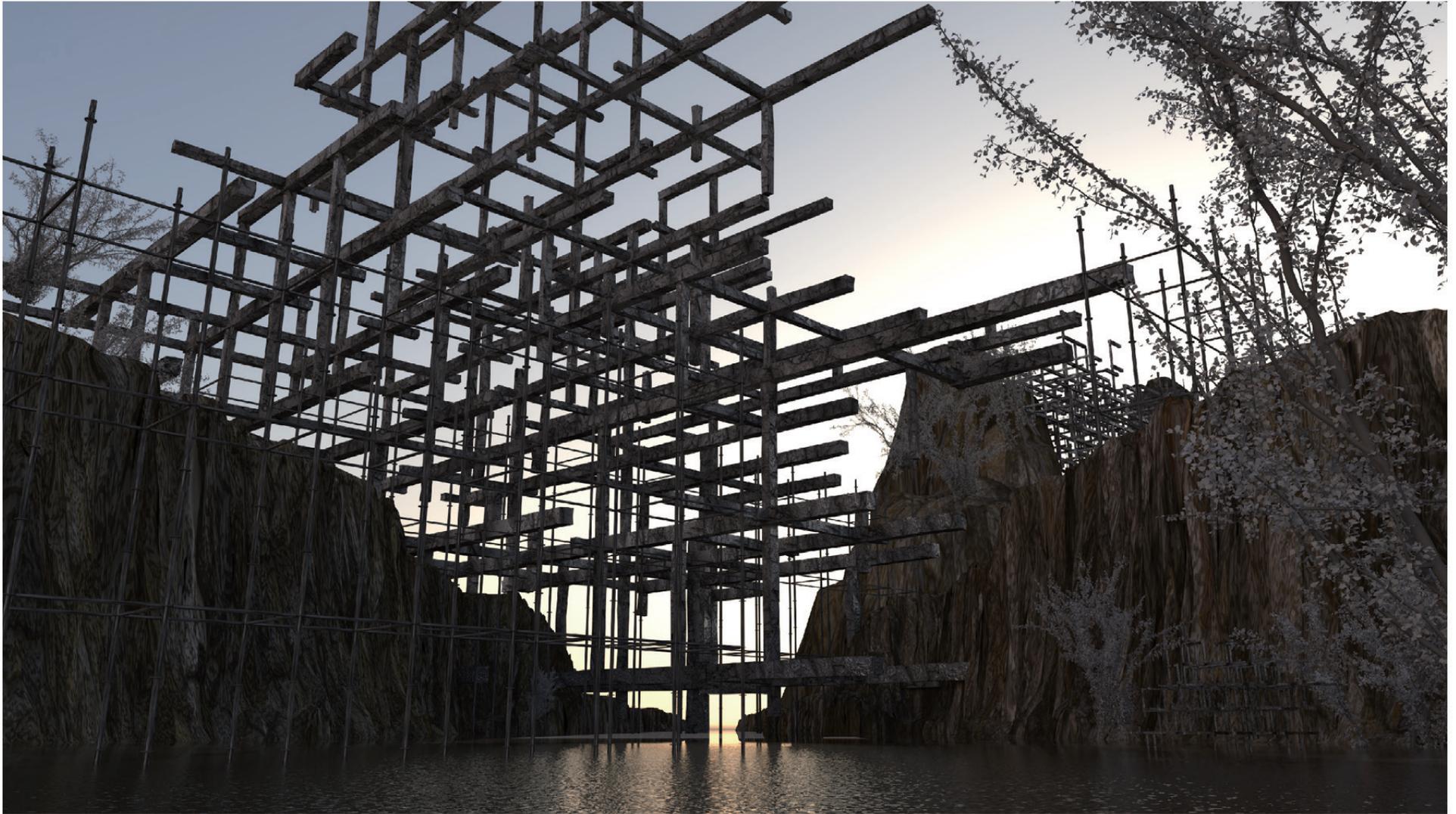




URBAN GREEN INFRASTRUCTURE

With a particular focus on children, Urban Tree Houses aim to foster an appreciation for nature and inspire a sense of environmental stewardship among the younger generation. The structures provide a safe and engaging environment for kids to explore, play, and learn about the natural world, which is essential for their development and well-being. Educational programs, workshops, and interactive exhibits can be organized within the Urban Tree Houses to further enhance the learning experience and promote environmental awareness.

The Urban Tree House project not only serves as a creative solution to the lack of green spaces in urban environments but also advocates for sustainable and responsible city planning. By hacking the rules of street infrastructure and repurposing existing materials, this concept demonstrates the potential for innovative, eco-conscious design in our cities, paving the way for a more sustainable urban future.



FOREST OF RUIN

Project Type : Visual Tech (Group Project)

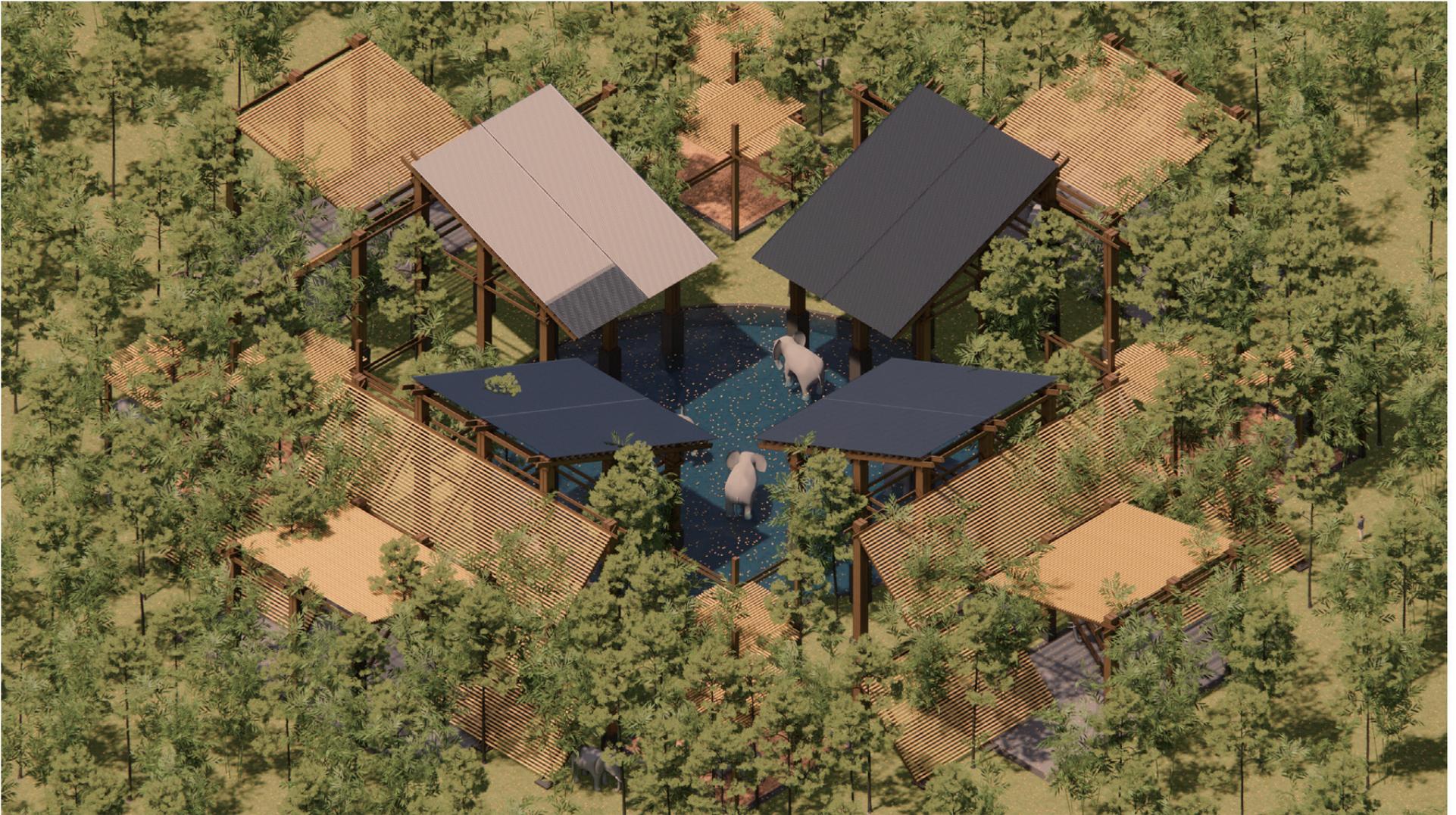
Team Member: Ting-Wei Shih / Chung-Ying Hor / Thomas Lee / Xu Cheng

Instructors : Phillip Crupi

Date : Fall 2022

Software : Rhino / 3Ds max / Vray

We are creating an immersive environment that blends decay and rebirth, showcasing the harmony between crumbling civilization and thriving nature. The landscape will feature weathered concrete structures with rusted metal elements, evoking abandonment and decay as nature reclaims the area. Set against a breathtaking valley backdrop, the scene includes rolling hills, dense forests, and meandering streams. Wildflowers add bursts of color to the muted palette of the ruins. The valley's diverse wildlife, such as deer, foxes, and birds of prey, interact with both the ruins and their natural surroundings, emphasizing harmony between man-made and organic elements.



MEDITATION FOREST

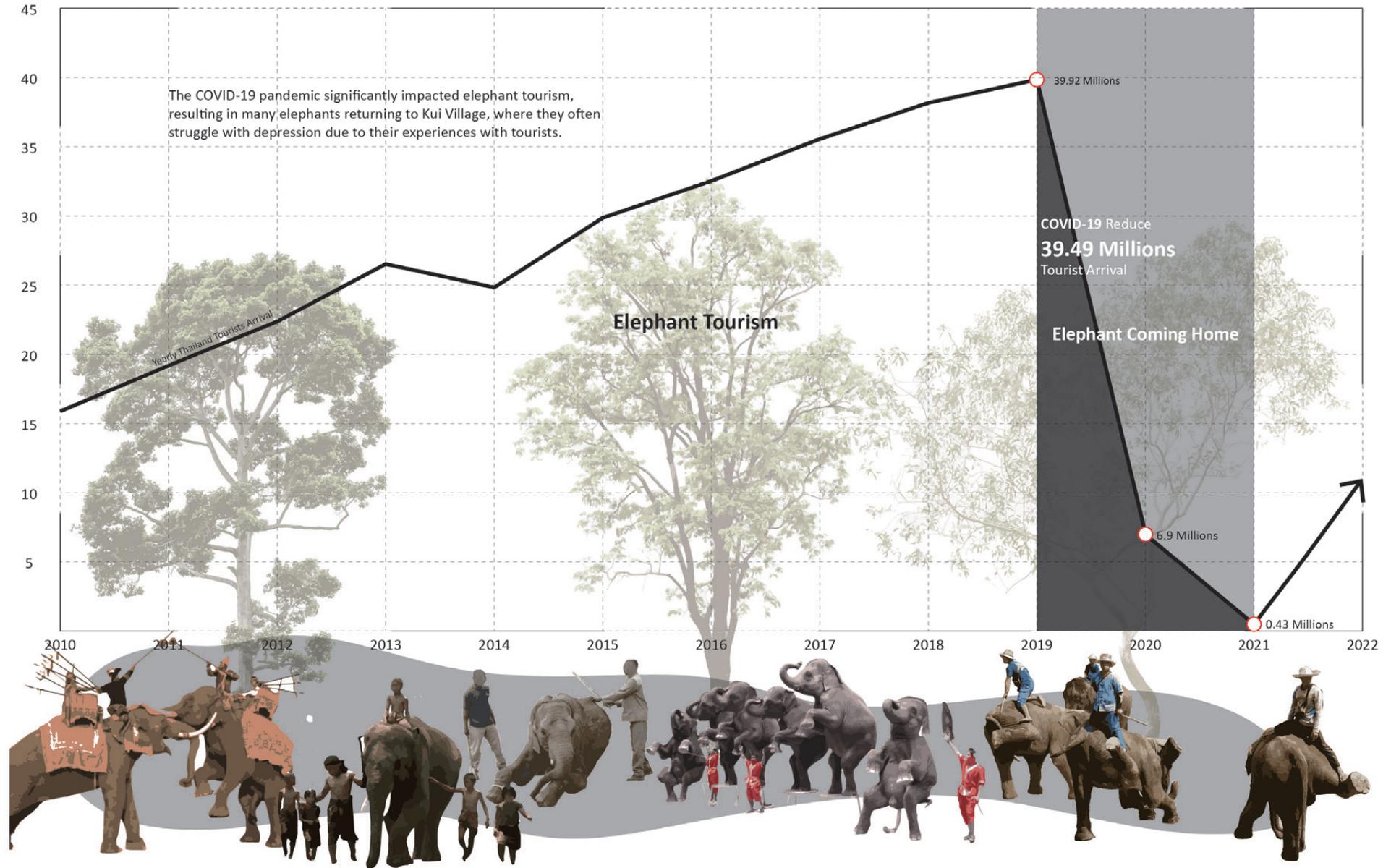
Project Type : Academic (Individual)
Program : Non-Human Centered Studio / Meditation
Instructor : Boonserm Premthada / Bangkok Project Studio
Date : Spring 2023
Location : Surin, Thailand

Meditation Forest aims to establish a Mutualistic Meditative Coexistence between humans and elephants, fostering a balanced and sustainable relationship that enhances the well-being of both species. Historically, elephants in Thailand have been used for various purposes, such as labor, warfare, and tourism. However, this has often led to a one-sided relationship, or commensalism, where only humans benefit, causing mental and physical stress for the elephants.

ELEPHANT COEXISTENCE IN THAILAND

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COLUMBIA GSAPP PORTFOLIO



NON-HUMAN CENTERED STUDIO

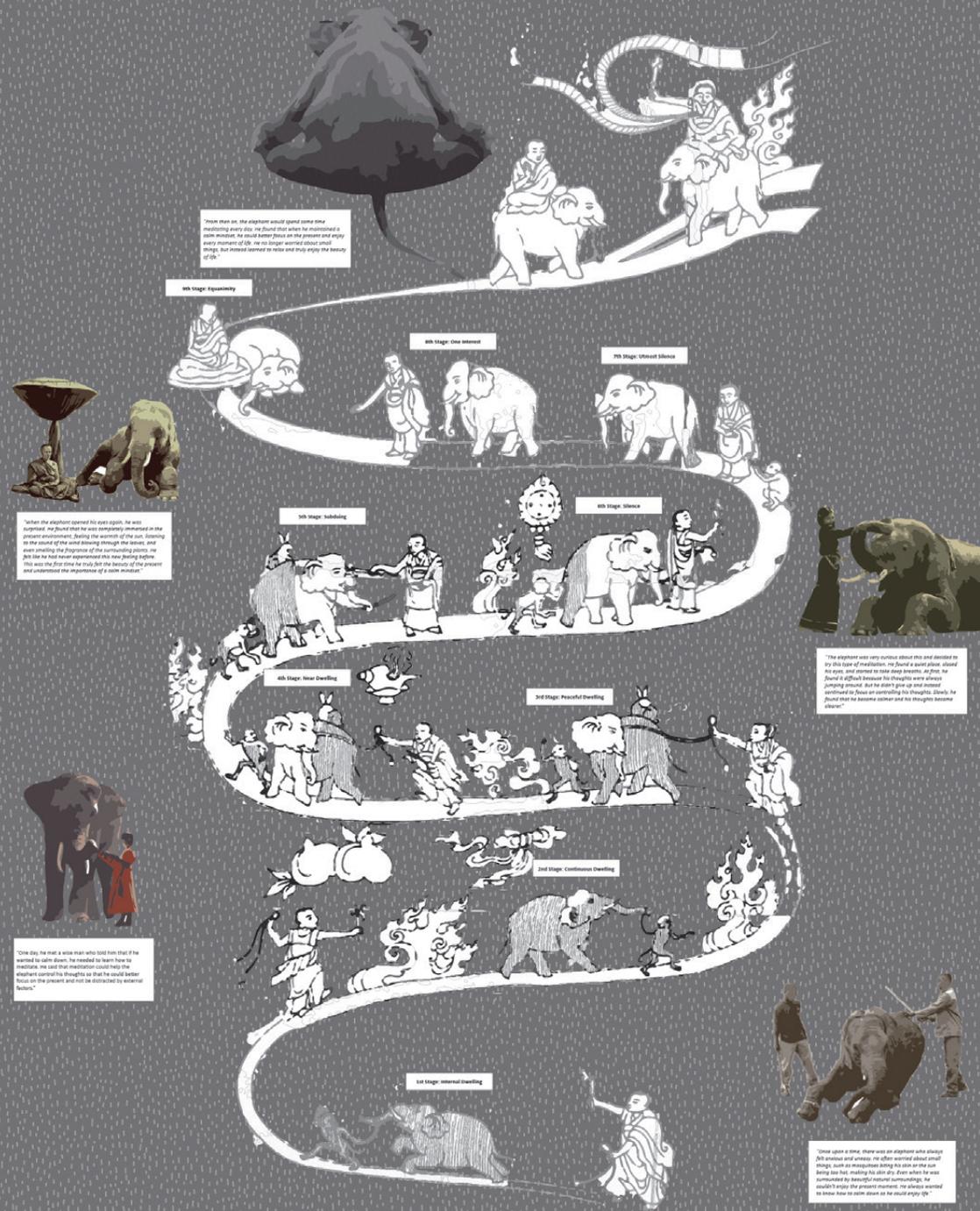
NON-HUMAN CENTERED STUDIO

Warfare: In ancient times, elephants were used as instruments of war. Elephants could take heavy blows on the battlefield and could effectively attack the enemy. Thai kings and generals often rode on elephants to direct battles.

Labor Force: Elephants have been used extensively in labor throughout Thai history, especially in forestry and agriculture. They have great strength and stamina and can haul huge logs, help build buildings and construct roads.

Elephant Shows and Festivals: Some tourist attractions and events host elephant shows, such as elephant soccer, painting and performing various tricks. There are also festivals celebrating elephants in Thailand, such as the Elephant Festival, where visitors can watch various elephant competitions and activities.

Elephant Rides: At some tourist attractions, visitors can ride on the backs of elephants and experience the adventure of crossing jungles and rivers. However, this activity has been criticized by animal protection groups in recent years because of the possible health effects of prolonged rides on elephants.



Site Image

MEDITATIVE COEXISTENCE

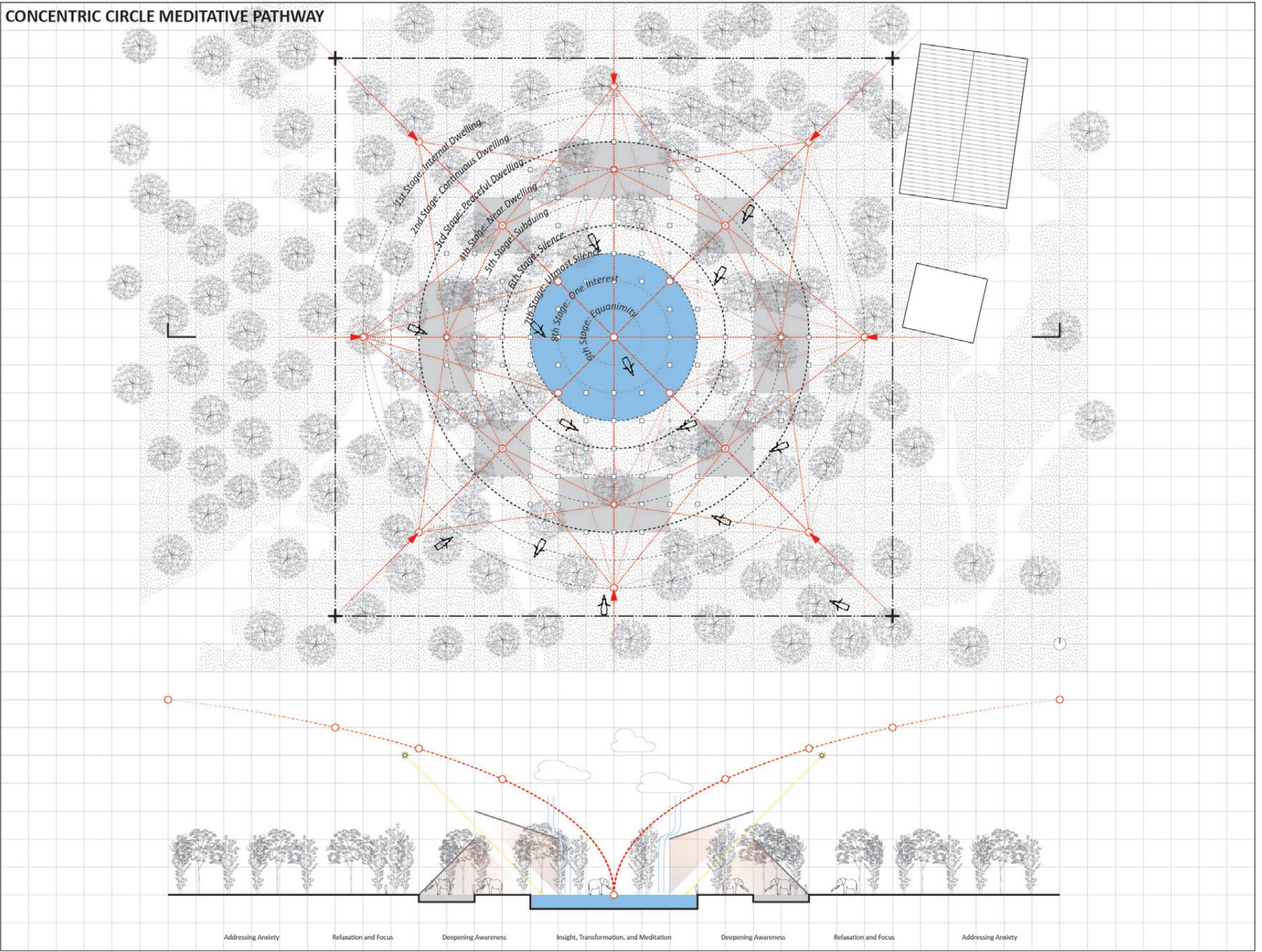
The Thangka Painting, illustrating the Nine Stages of Samatha Meditation, uses images of training elephants to elucidate the meditation process, fostering a deeper understanding and introducing the concept of Mutualistic Meditative Coexistence. This innovative project merges the spiritual connection between humans and elephants through meditation, benefiting both species. People learn from the steady pace of elephants to calm their minds, while elephants perceive the relaxation and peacefulness radiating from humans, releasing their stress.

This mutualistic relationship enhances the well-being of both humans and elephants and transcends barriers between beings, encouraging a deeper appreciation for the interconnectedness of life. The Thangka Painting is visually captivating and profoundly inspiring, suggesting the potential for a new spiritual connection that fosters harmonious coexistence between humans and elephants.

Key elements within the painting represent aspects of the meditative journey:

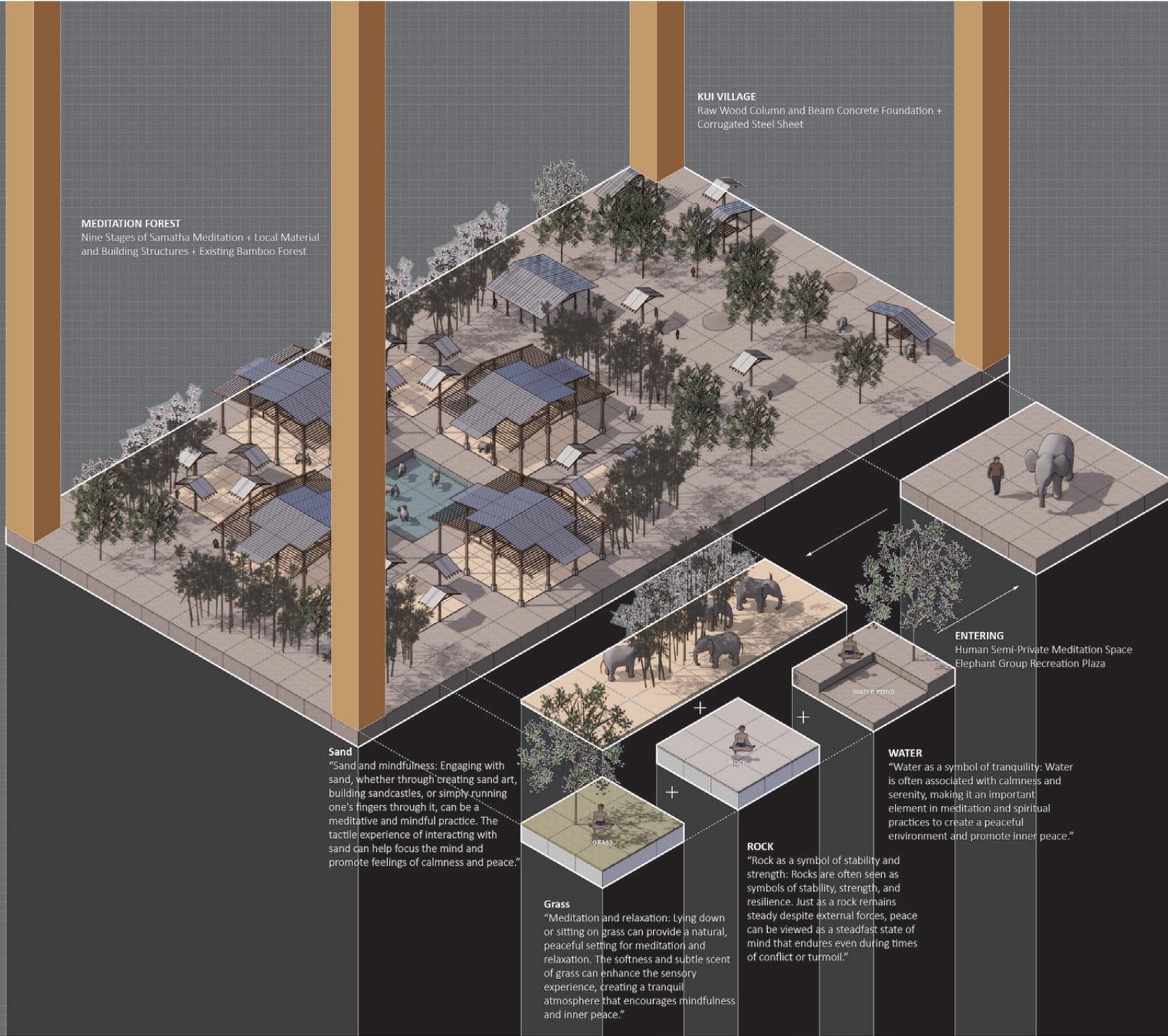
- Monk:* practitioner of meditation, symbolizing our heart.
- Iron Hook:* wisdom for navigating the path.
- Rope:* awareness or right-mindedness for focus.
- Elephant:* agitated minds, challenging to tame.
- Monkey:* five senses, influenced by the environment.

CONCENTRIC CIRCLE MEDITATIVE PATHWAY



MEDITATION FOREST
 Nine Stages of Samatha Meditation + Local Material
 and Building Structures + Existing Bamboo Forest

KUI VILLAGE
 Raw Wood Column and Beam Concrete Foundation +
 Corrugated Steel Sheet



BEFORE
 1 Human + 1 Elephant

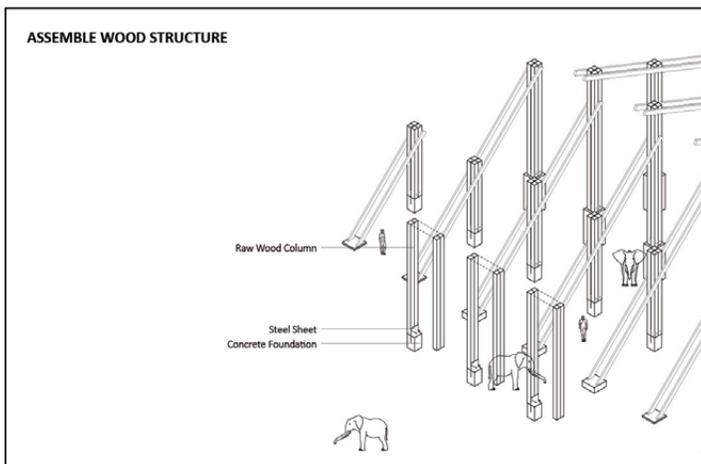
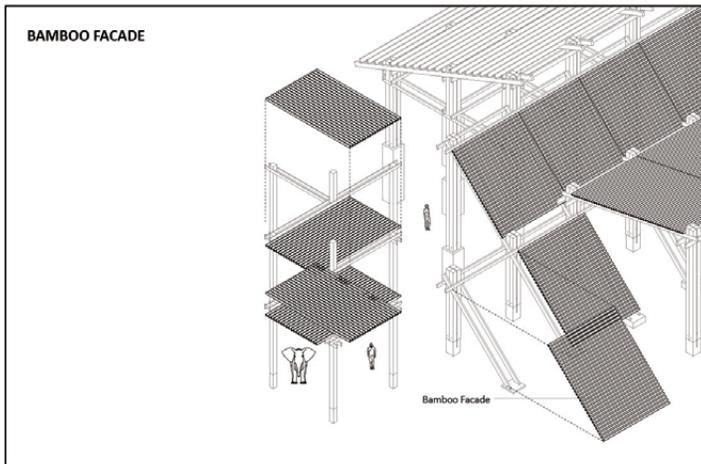
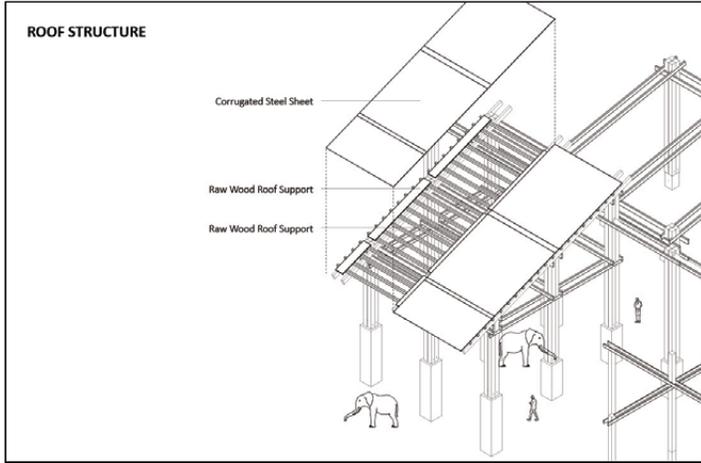
ENTERING
 Human Semi-Private Meditation Space
 Elephant Group Recreation Plaza

Sand
 "Sand and mindfulness: Engaging with sand, whether through creating sand art, building sandcastles, or simply running one's fingers through it, can be a meditative and mindful practice. The tactile experience of interacting with sand can help focus the mind and promote feelings of calmness and peace."

Grass
 "Meditation and relaxation: Lying down or sitting on grass can provide a natural, peaceful setting for meditation and relaxation. The softness and subtle scent of grass can enhance the sensory experience, creating a tranquil atmosphere that encourages mindfulness and inner peace."

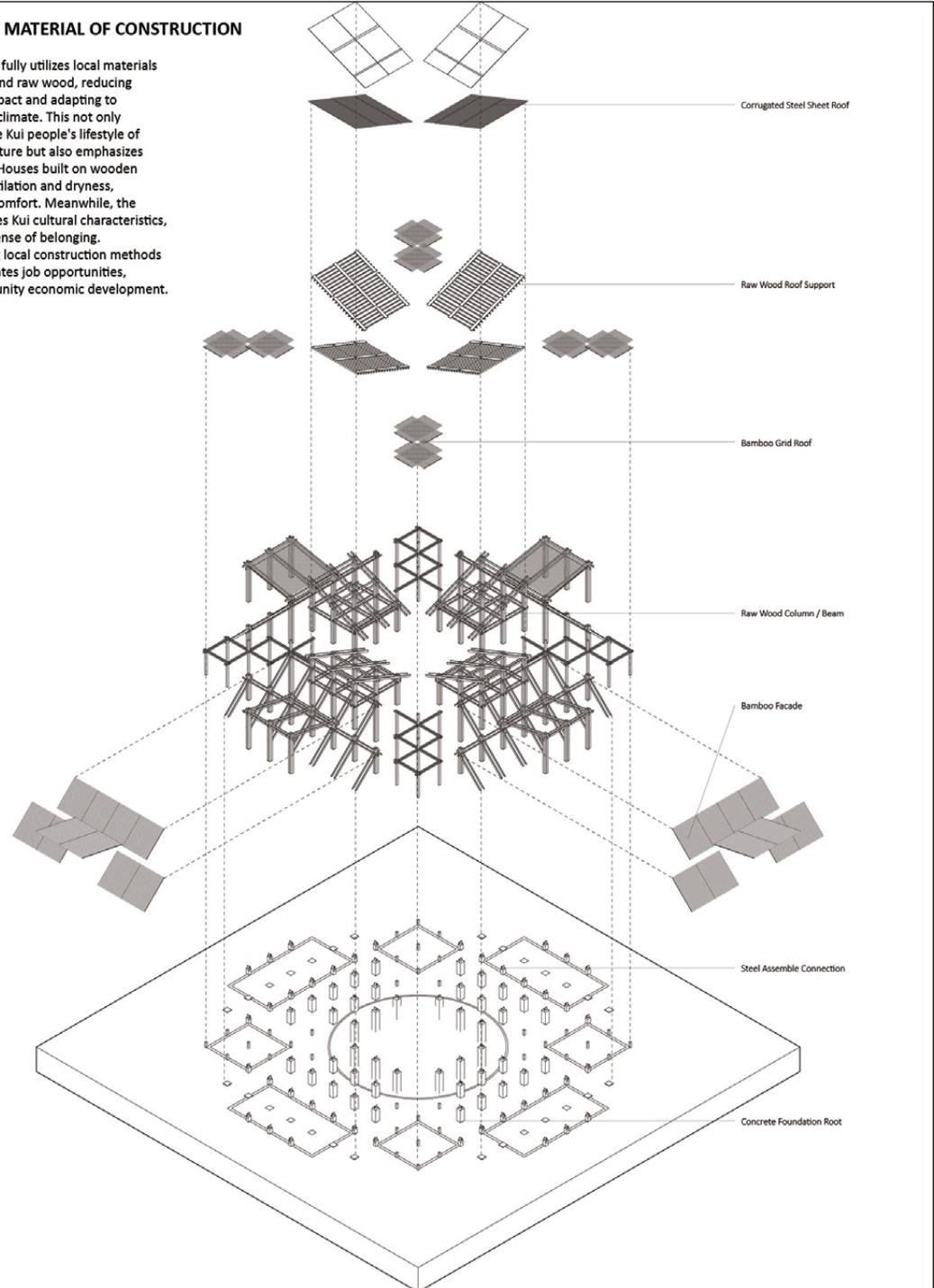
ROCK
 "Rock as a symbol of stability and strength: Rocks are often seen as symbols of stability, strength, and resilience. Just as a rock remains steady despite external forces, peace can be viewed as a steadfast state of mind that endures even during times of conflict or turmoil."

WATER
 "Water as a symbol of tranquility: Water is often associated with calmness and serenity, making it an important element in meditation and spiritual practices to create a peaceful environment and promote inner peace."



TECHNIQUE / MATERIAL OF CONSTRUCTION

Meditation Forest fully utilizes local materials such as bamboo and raw wood, reducing environmental impact and adapting to Thailand's humid climate. This not only resonates with the Kui people's lifestyle of coexisting with nature but also emphasizes cultural heritage. Houses built on wooden pillars ensure ventilation and dryness, enhancing living comfort. Meanwhile, the design incorporates Kui cultural characteristics, strengthening a sense of belonging. Additionally, using local construction methods and materials creates job opportunities, promoting community economic development.

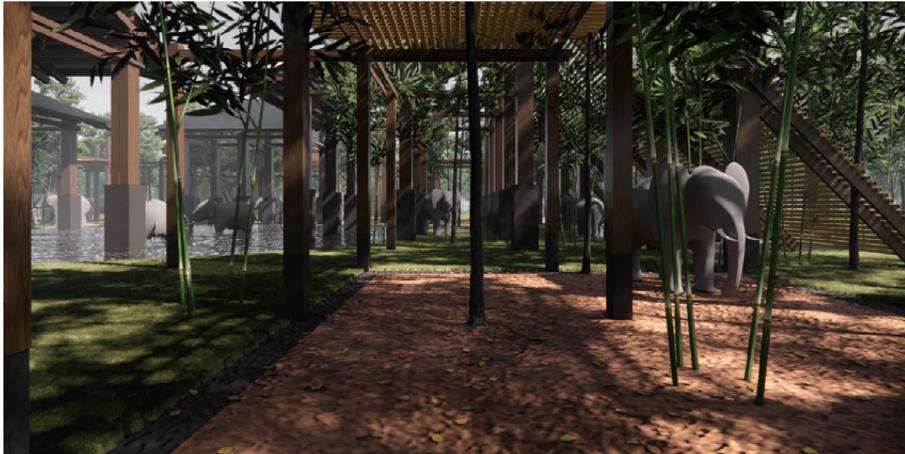




Anxiety



Concentration



Preparation



Mindfulness



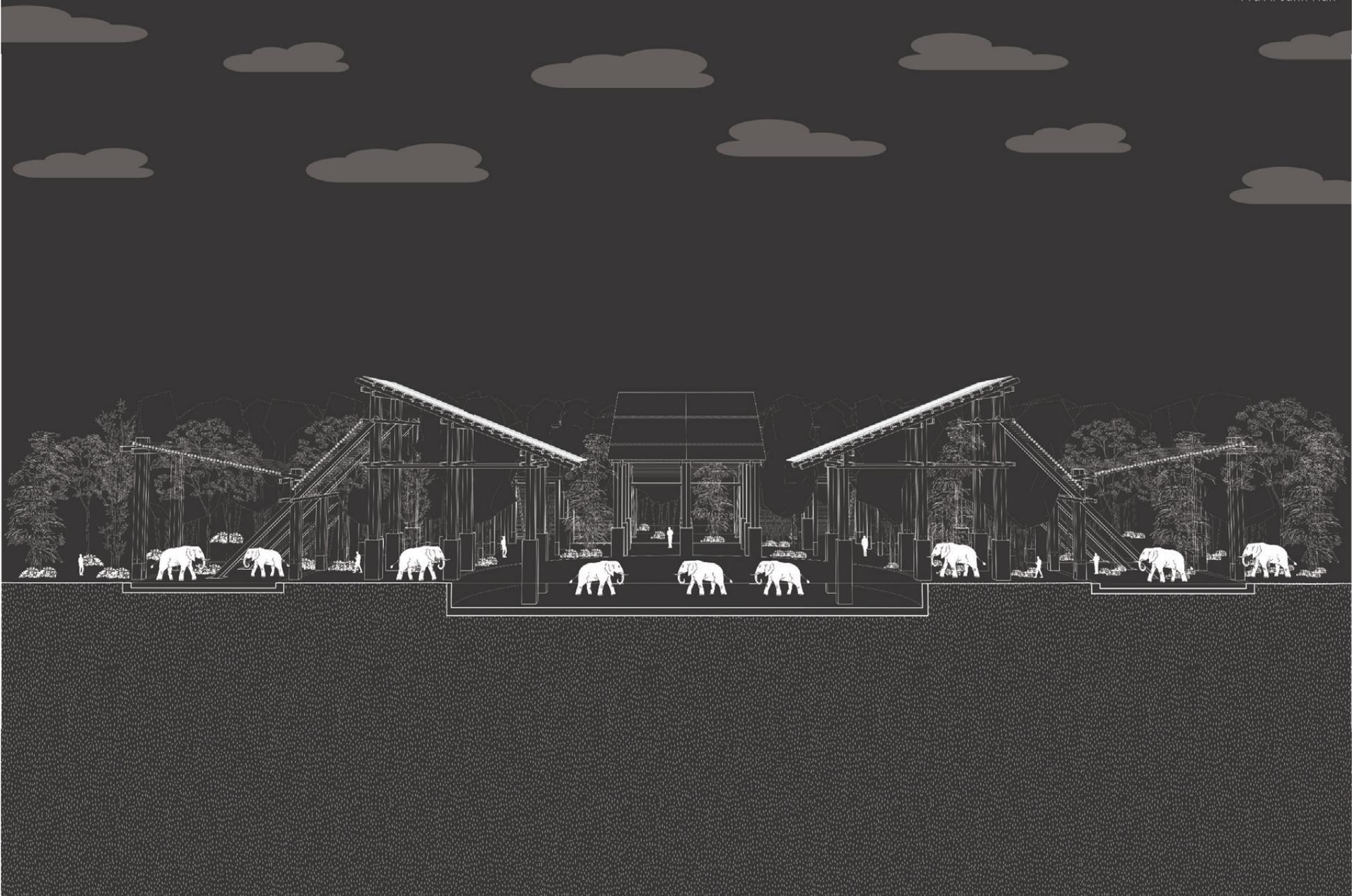
Relaxation

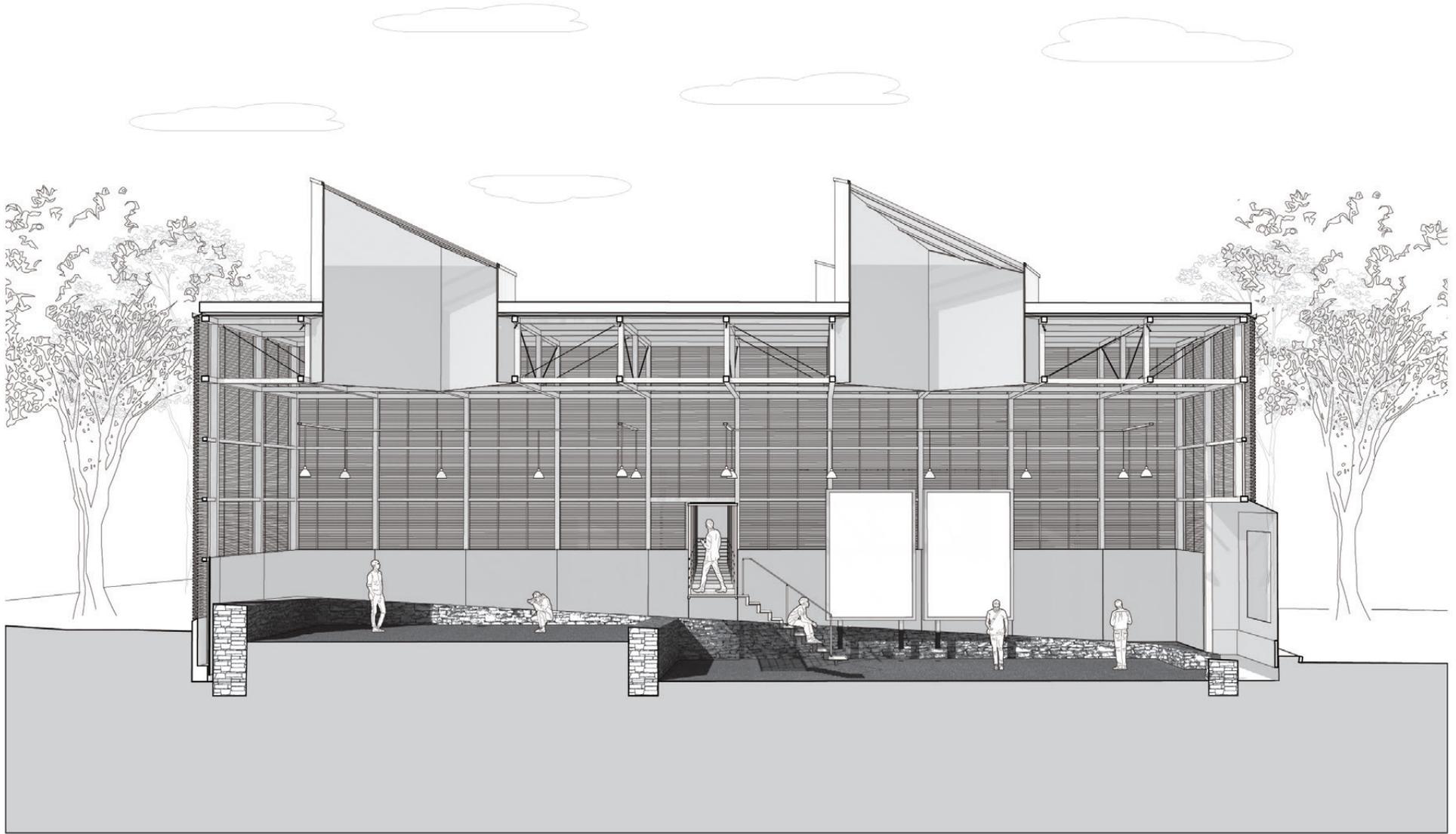


Insight

"Do you believe that elephants can meditate?"

"I believe that elephants may even be better at it than humans because they are not as easily distracted and don't have as many worries on their minds."
-Pra Ar Jahn Han





SHELTER FOR ROME RUIN

Project Type : Visual Tech (Individual)
 Project Architect: Peter Zumthor
 Instructor : Marc Tsurumaki
 Date : Spring 2023
 Location : Chur, Switzerland

The Shelter for Rome Ruin is a visionary architectural masterpiece designed by renowned Swiss architect Peter Zumthor. Nestled amidst the ancient ruins of Rome, this minimalist structure serves as a protective covering and exhibition space for the fragile archaeological remnants. Zumthor's design harmoniously blends contemporary materials and aesthetics with the historic context, fostering an immersive experience for visitors as they explore the rich layers of Rome's storied past. The Shelter for Rome Ruin is a testament to Zumthor's commitment to preserving and celebrating heritage while creating timeless architectural spaces.