

PORTFOLIO

HOBIN LEE

Selected Works at GSAPP

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01. Rethinking Ground



Extraction and Addition

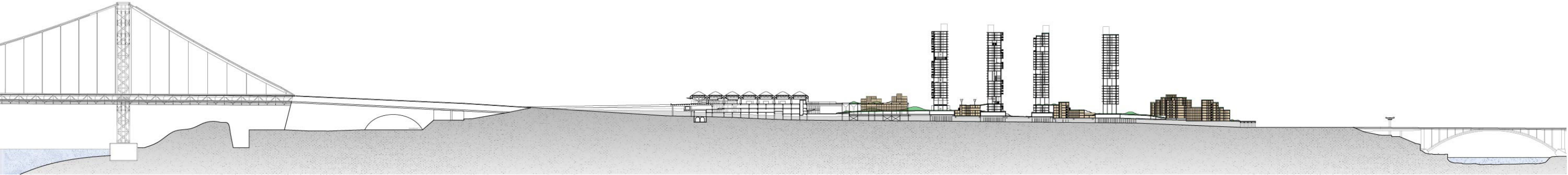
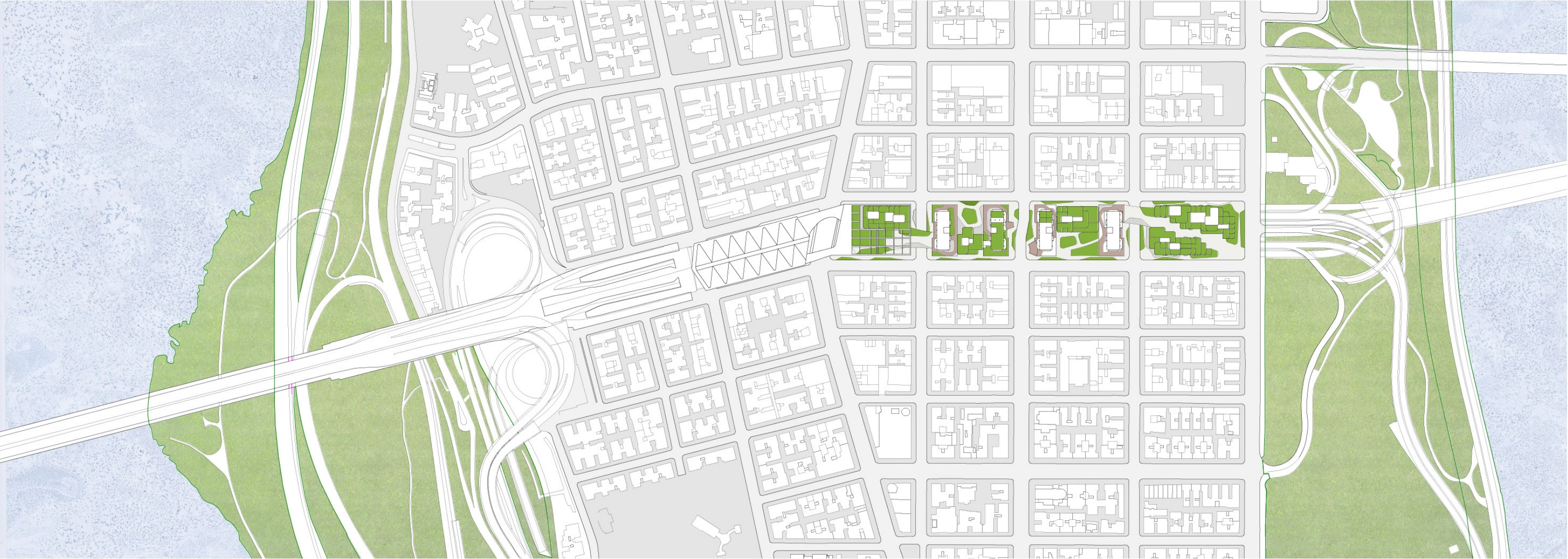
Rethink Ground reconnects fragmented infrastructure and housing by expanding the ground both vertically and horizontally, transforming isolated towers and the expressway into a continuous social landscape. Through the strategies of Extraction and Addition, the project opens new relationships between housing, circulation, and the park, redefining the ground as a shared civic environment.

Spring 2026
Type
Site
Instructor
Team

Adaptive Reuse, Residential
Washington Heights, NY
Galia Solomonoff
Seungwon Lee, Hee Leong Lim

Fragmented Ground and Urban Reconnection

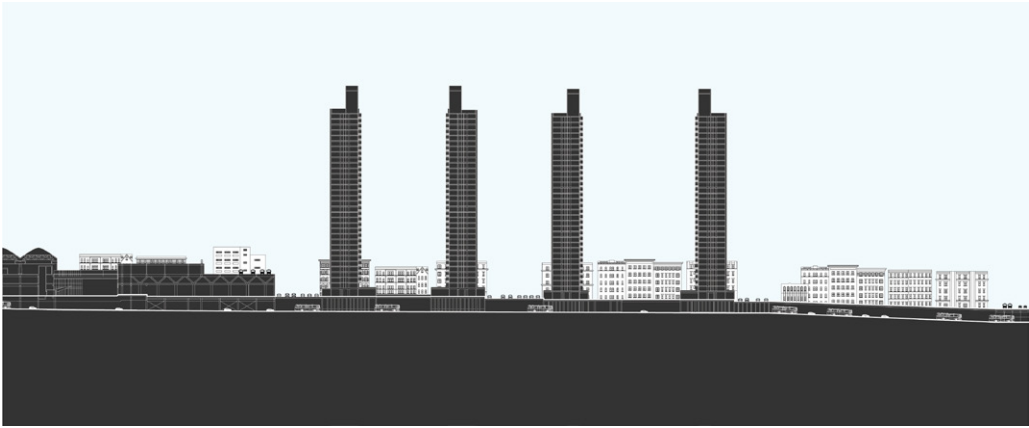
Washington Heights is currently fragmented by the Cross-Bronx Expressway and a series of isolated residential towers surrounding the George Washington Bridge Bus Station. Although the site functions as a major infrastructural node, the pedestrian environment remains disconnected, with limited relationships between housing, circulation, and public space. The ground is primarily occupied by traffic, service areas, and residual spaces, reducing opportunities for social interaction and collective use. The project proposes a new continuous ground condition that reconnects the severed relationships between the city, housing, and landscape. Through the strategies of Extraction and Addition, new voids, circulation paths, and residential volumes reorganize the existing towers and open them toward the park. By extending the ground both vertically and horizontally, the project transforms the site into a connected civic and social environment.



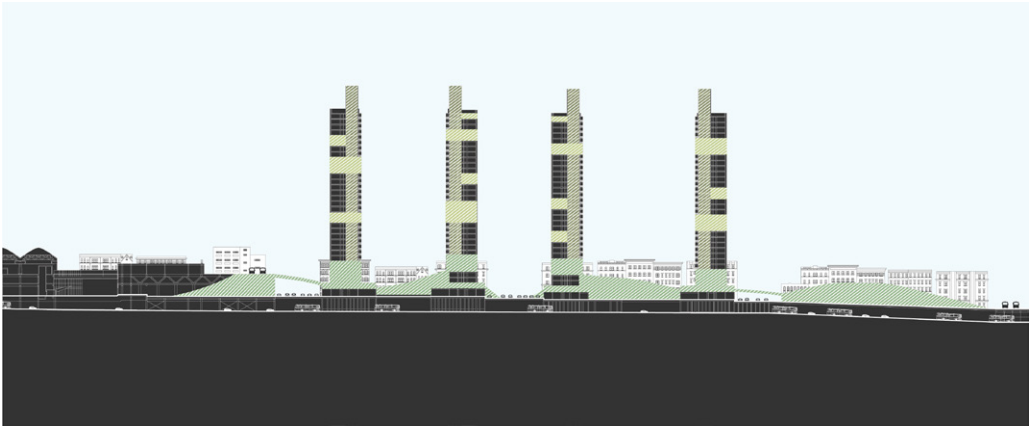
From Isolation to Continuity

The existing site is defined by separation. Infrastructure, housing, and public space operate as isolated systems, while the ground is dominated by traffic and residual space rather than social or civic activity. The residential towers stand independently from both the park and the surrounding urban fabric, reinforcing disconnection at multiple scales.

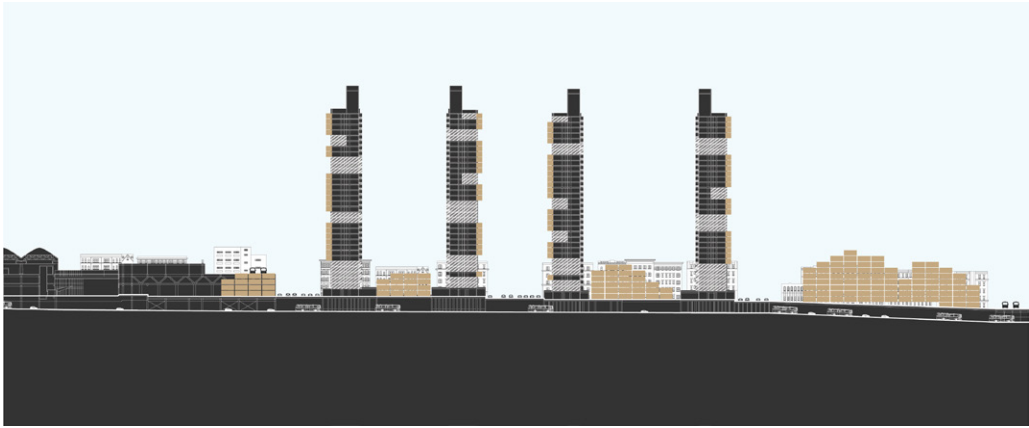
The project reorganizes this condition through the strategies of Extraction and Addition. Selective removal within the existing towers creates new openings, circulation paths, and relationships to the landscape, while new residential volumes expand outward from these voids and reconnect the site to the park. By extending the ground both horizontally and vertically, the project transforms fragmented urban elements into a continuous civic environment.



Existing Condition



Ground Extension



Residential Addition





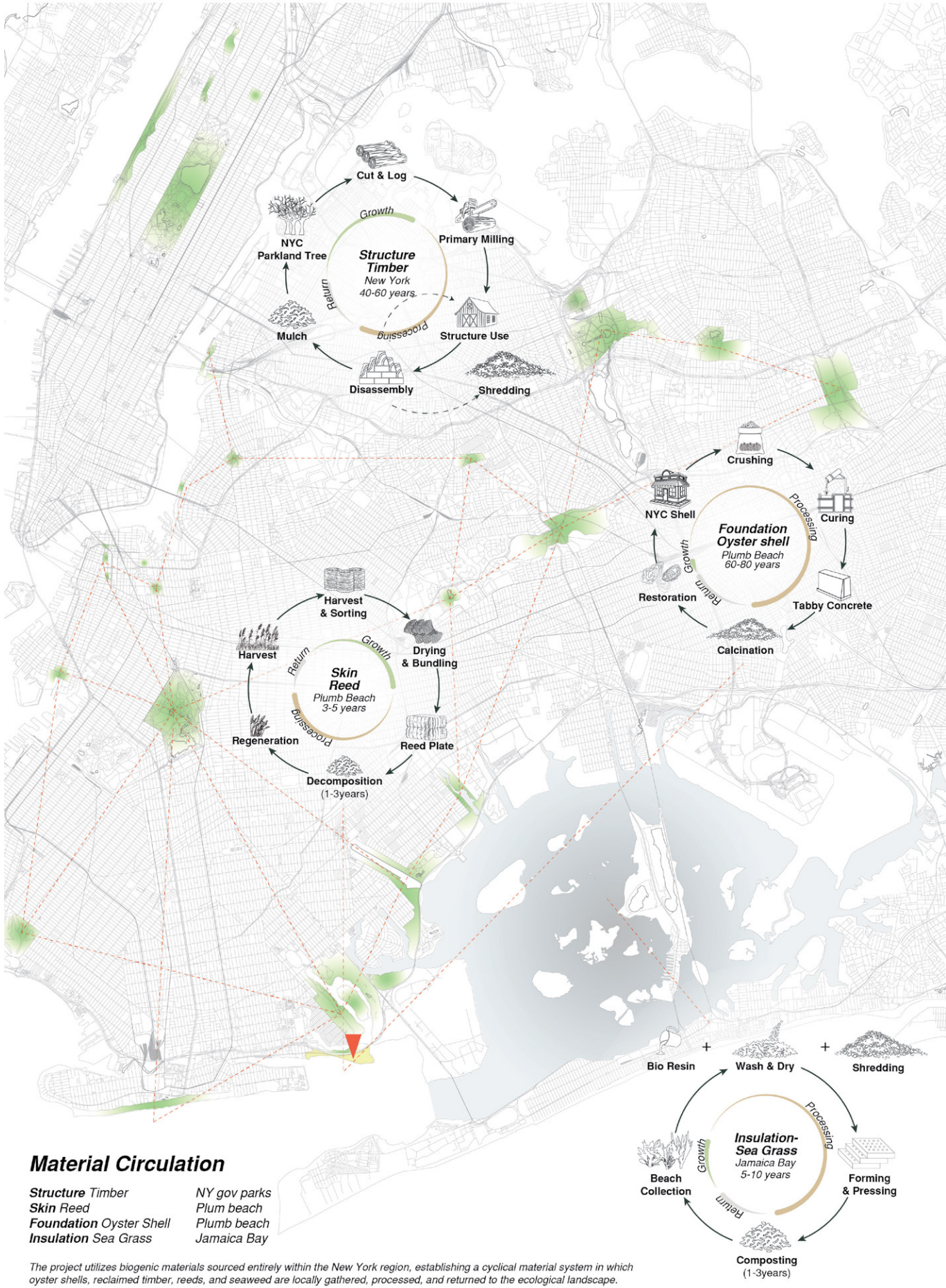


02. 2025 - 2035 - 2055 : Crisis - Time Grid



Sea-Level Rise and Systemic Transformation

This project reorganizes coastal structures over time as sea-level conditions shift
Through adaptive reassembly and material cycles, it integrates recreation and marine research within evolving intertidal ecologies

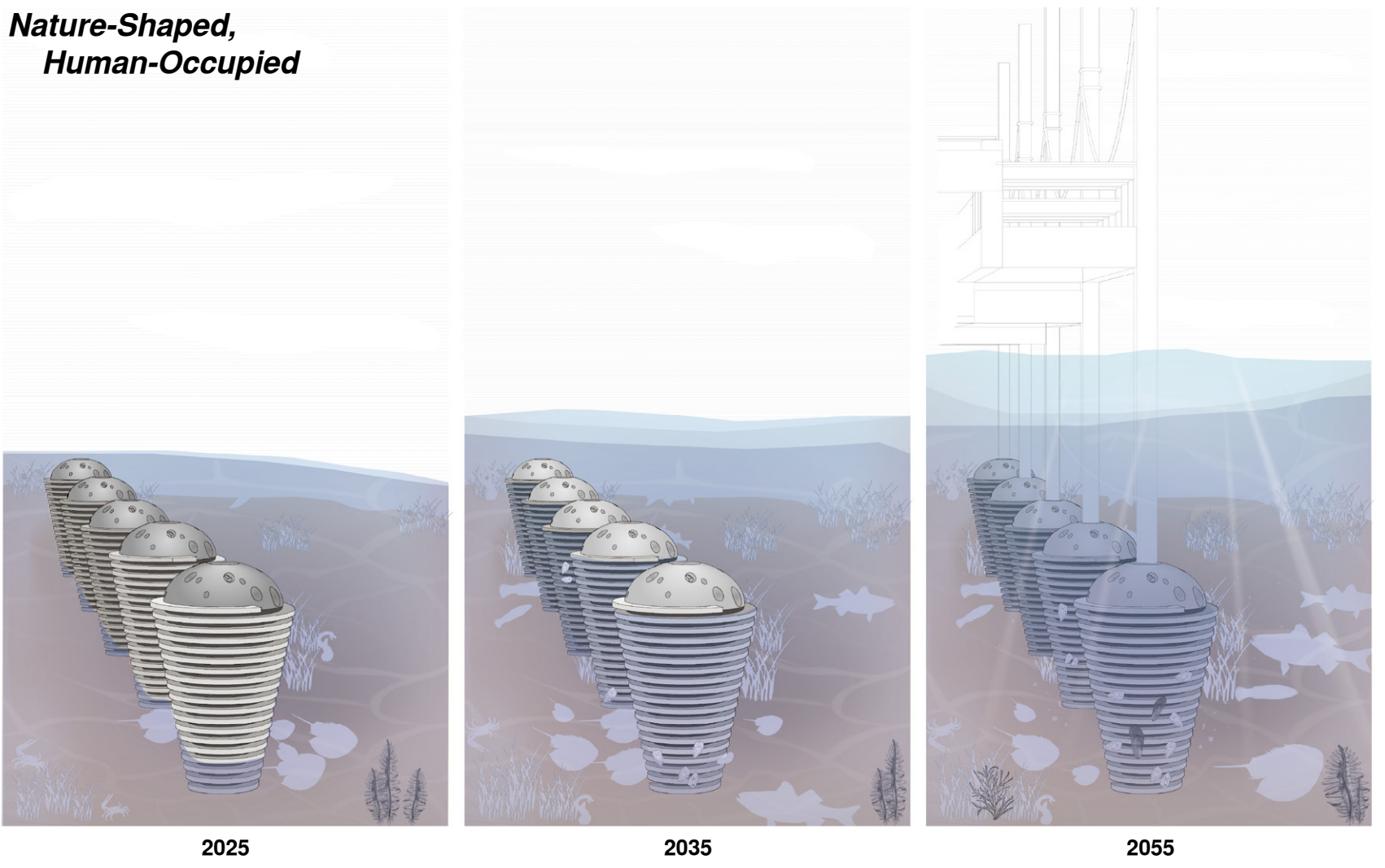


Cycles of Material and Ecology

The project works with materials produced, discarded, and transformed within New York itself. Oyster shells become tabby concrete, reclaimed timber is reused as structure, and invasive reeds are repurposed as façade materials. Rather than treating architecture as permanent, these materials are understood as part of a continuous cycle of growth, decay, reuse, and return to the landscape.

This material cycle intersects with the spawning cycle of the horseshoe crab at Plumb Beach. As tides, sediment, and migration continuously reshape the site, the architecture adapts alongside these ecological rhythms instead of resisting them. Plumb Beach is therefore reimaged as a living interface where material, ecology, and time remain interconnected.

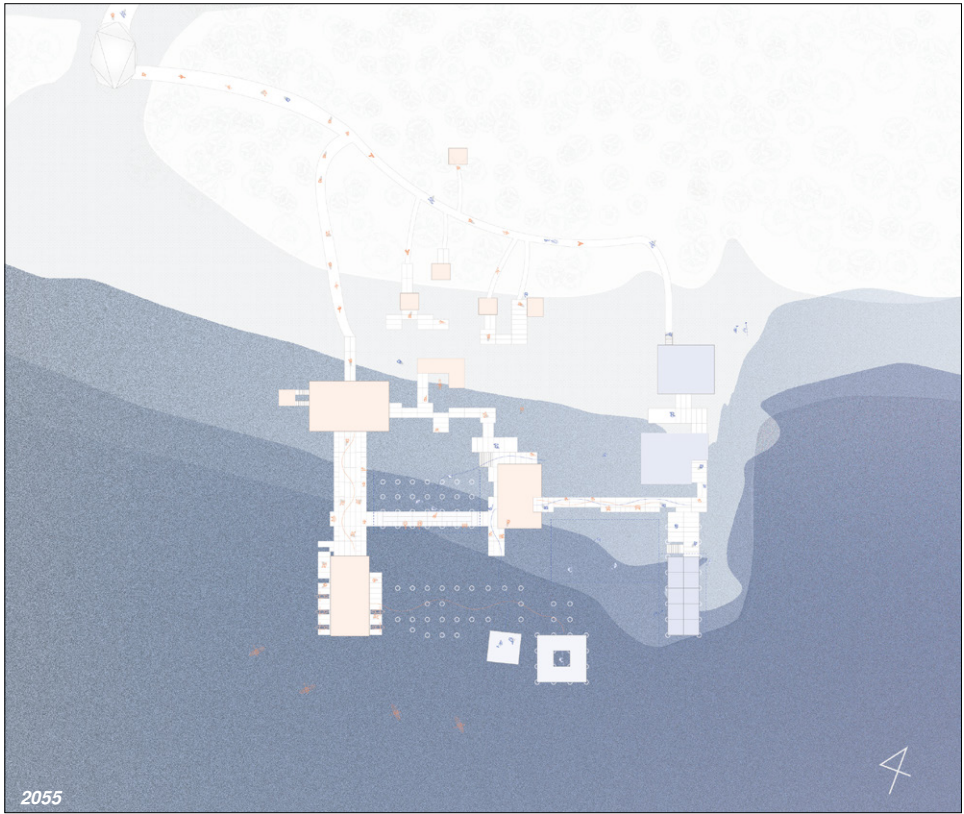
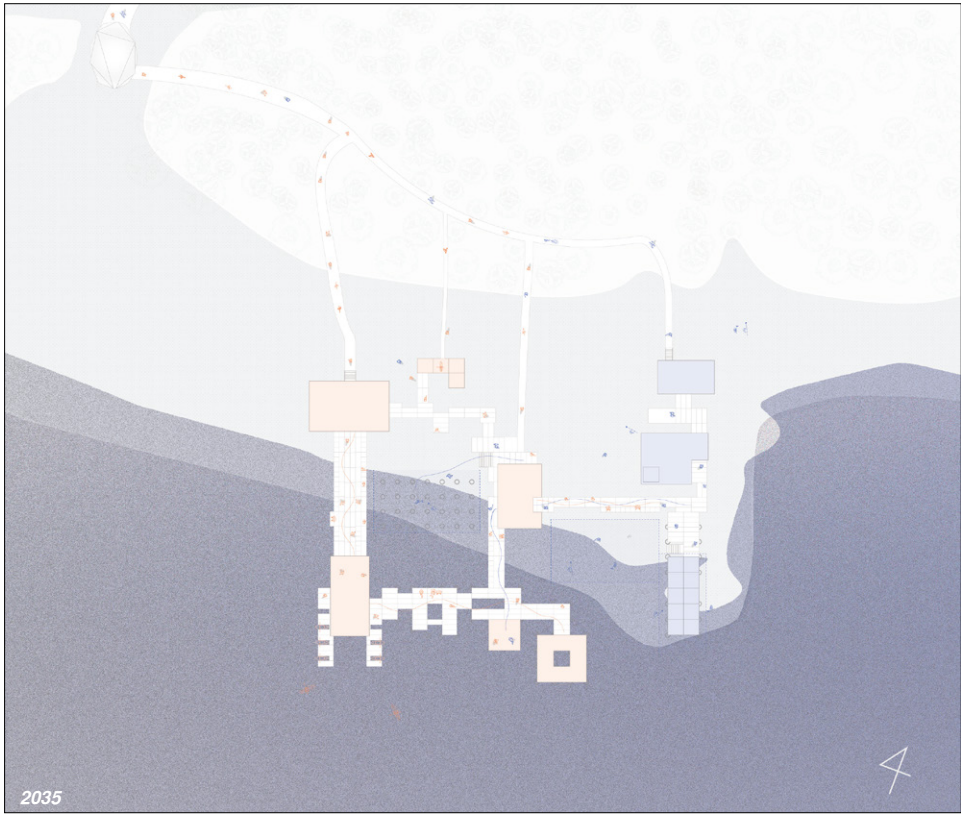
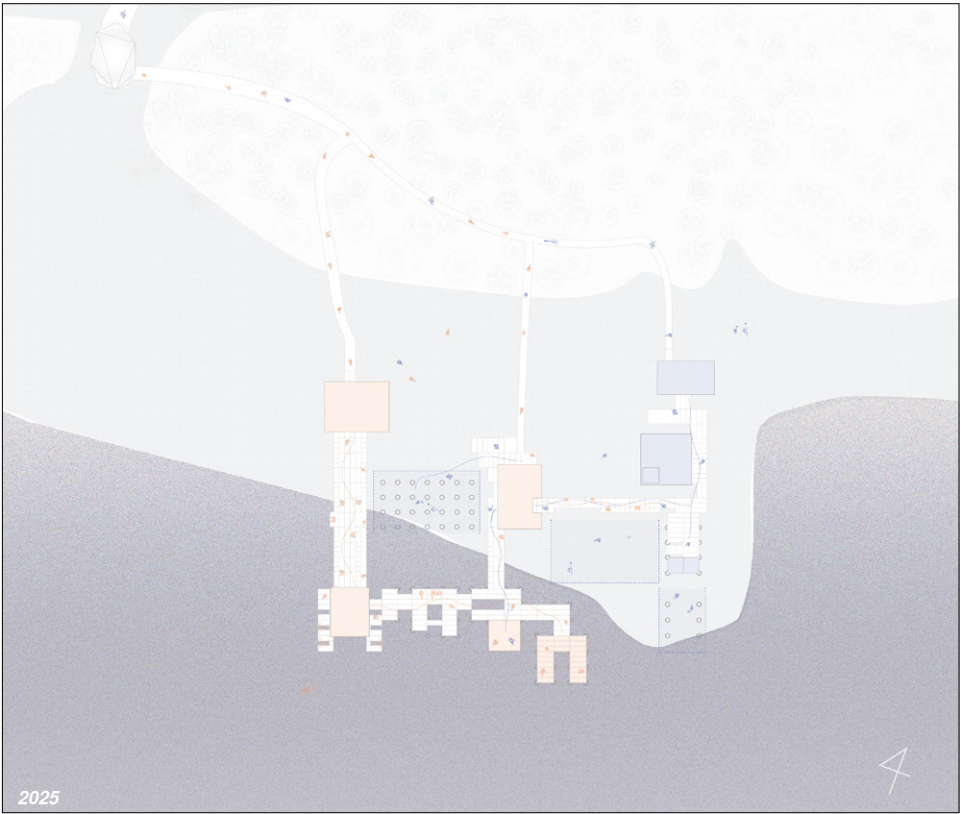
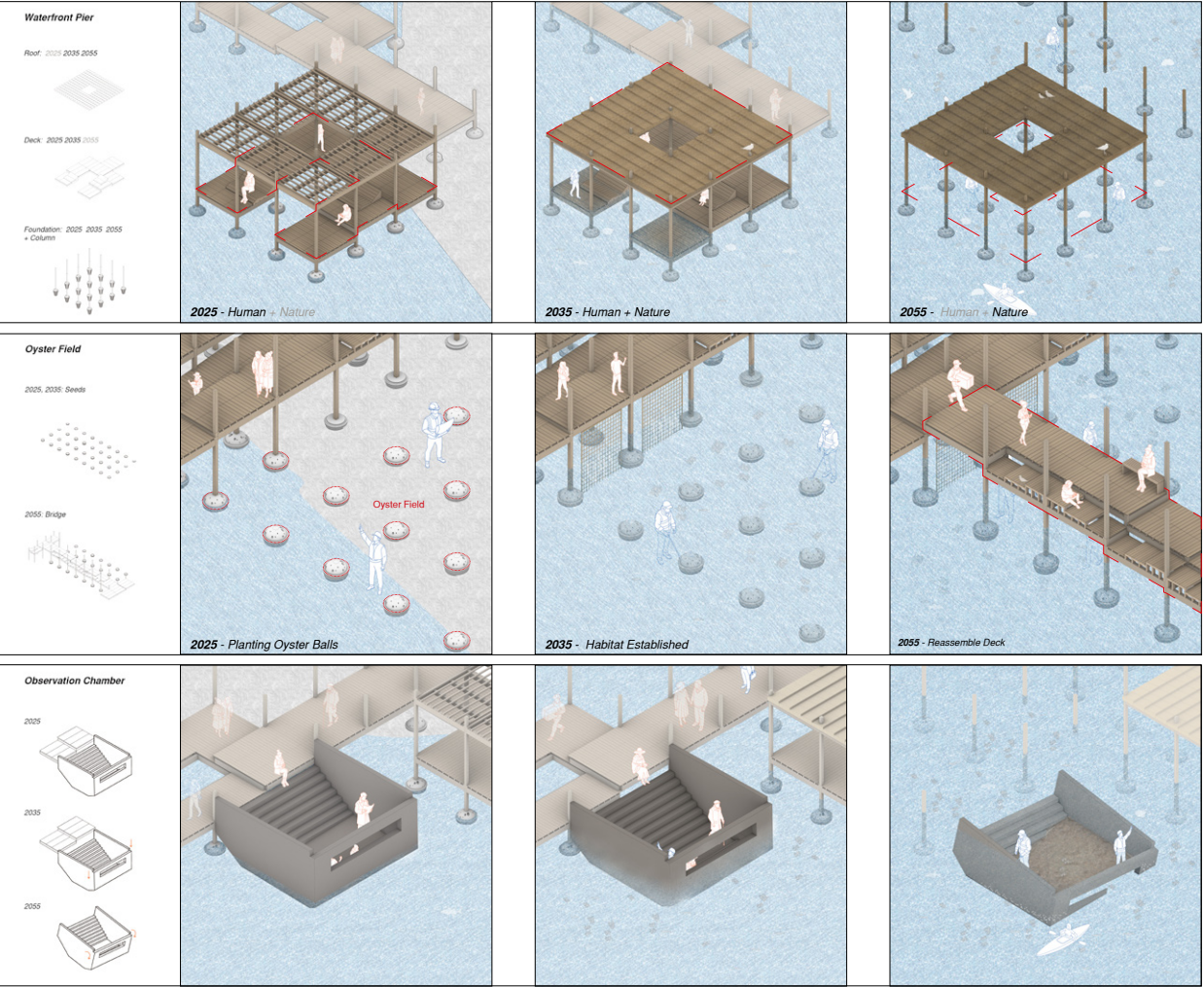
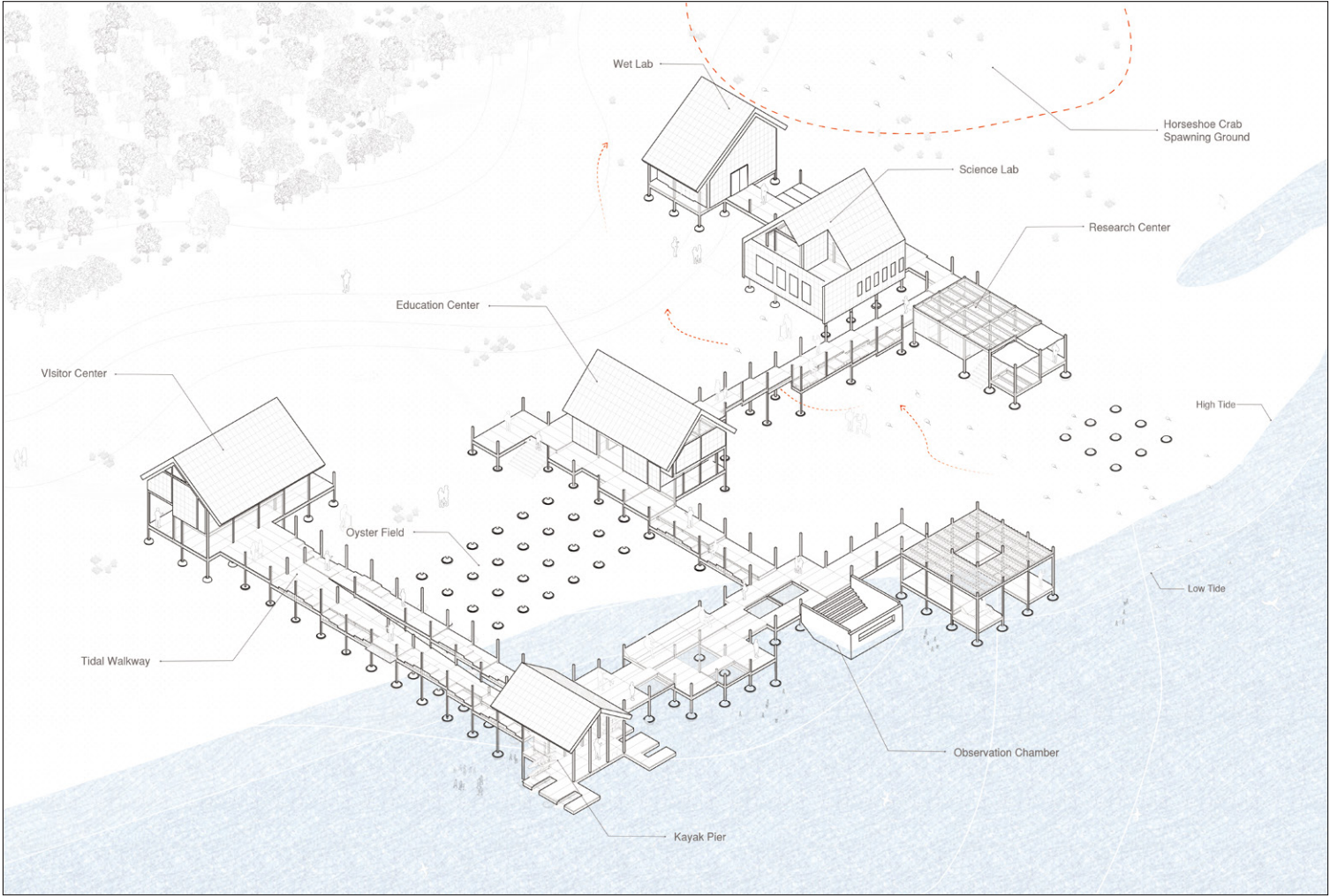
Nature-Shaped,
Human-Occupied

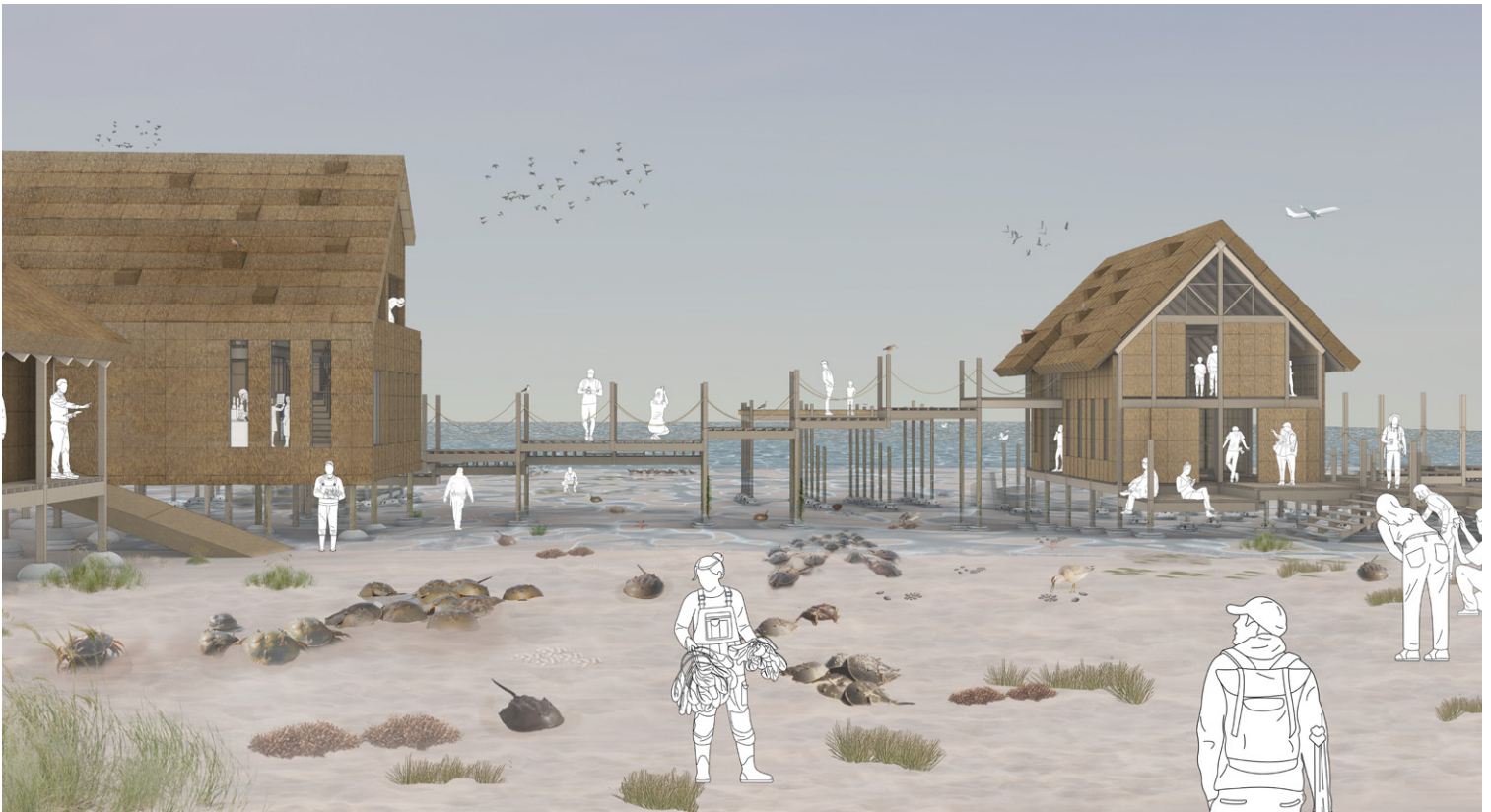
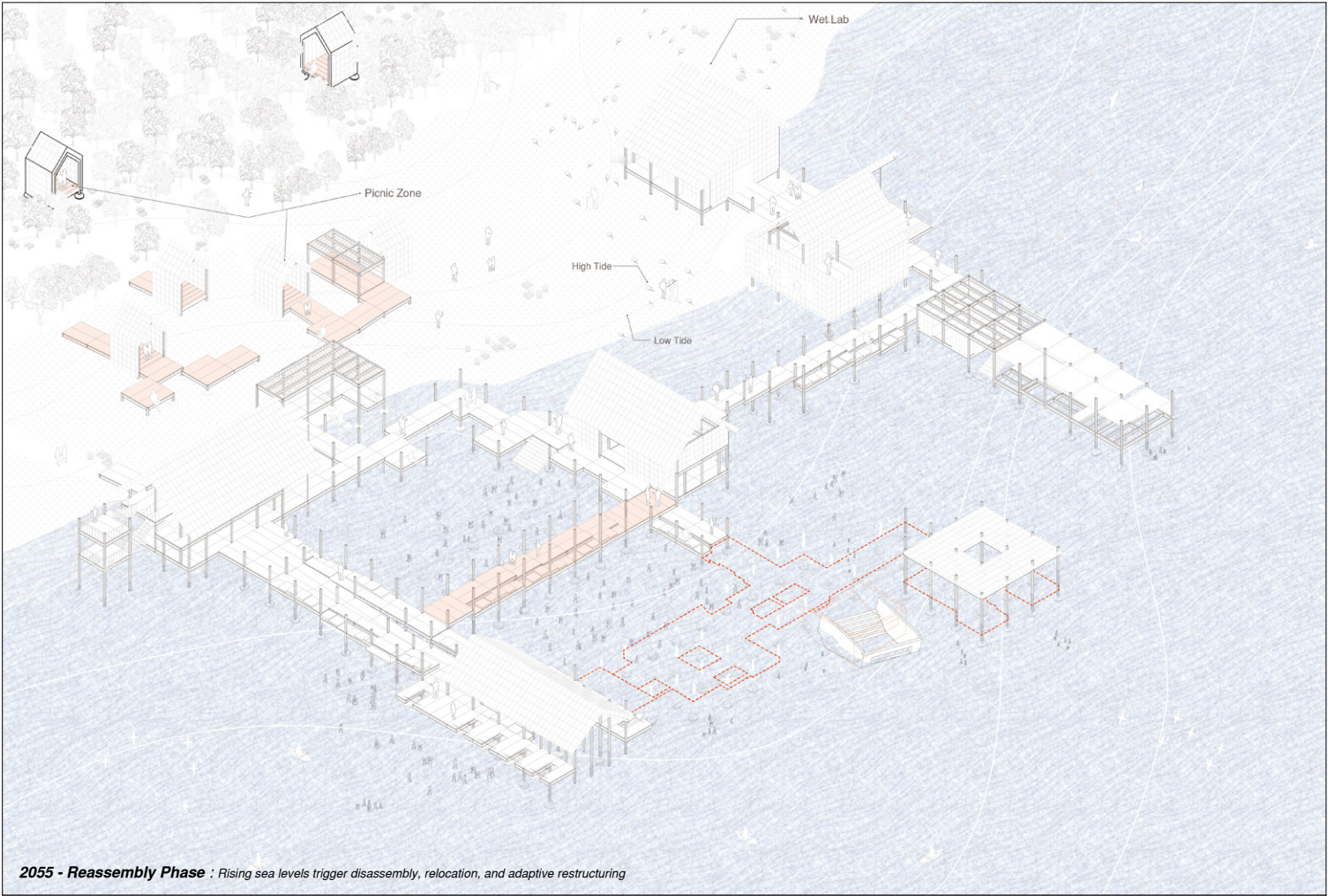
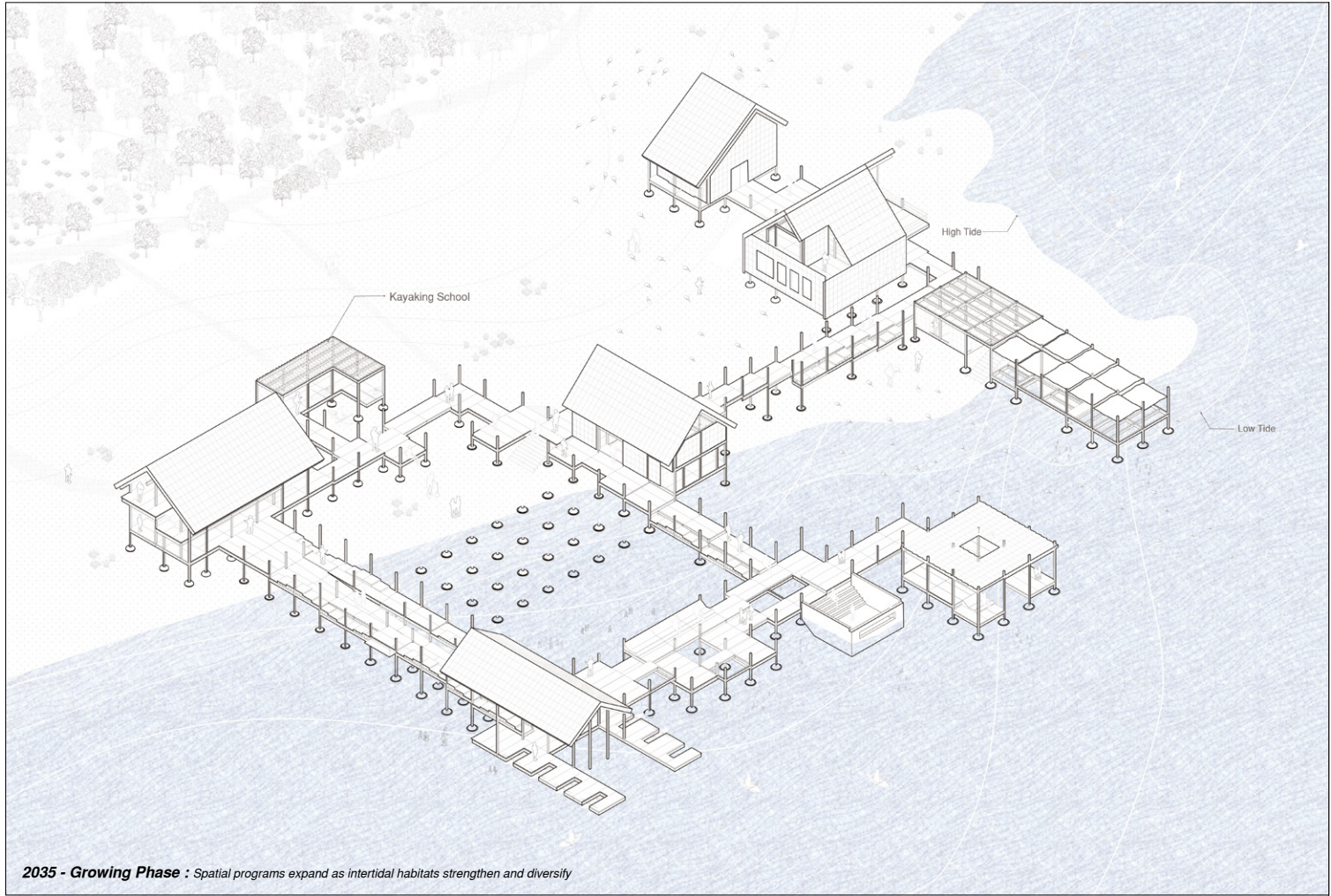


As sea levels rise, the initial oyster field gradually transitions from an ecological substrate to the building's substructure, allowing a natural 'seed' to be reconfigured over time into an infrastructure that supports human programs.

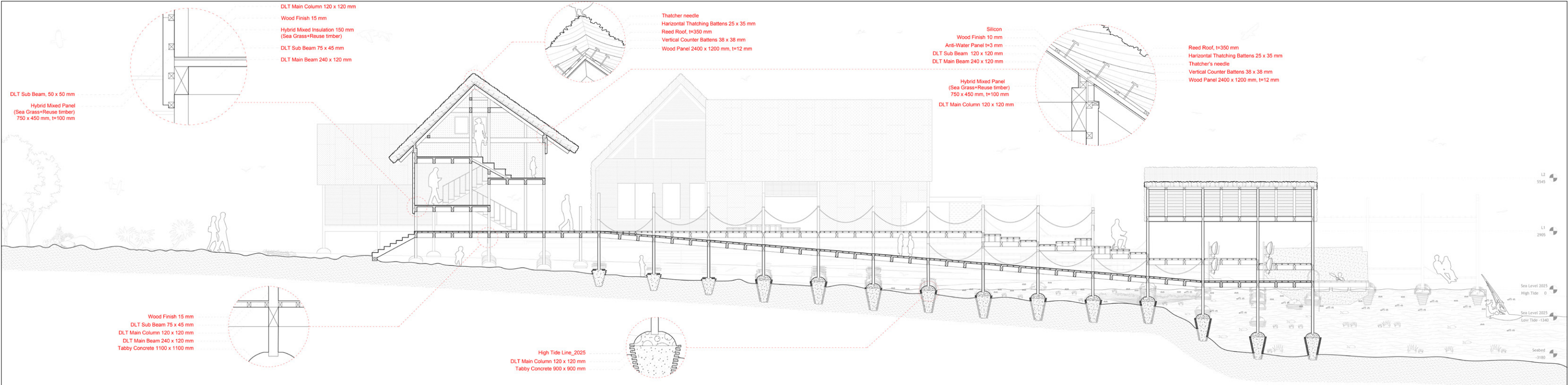
2025 - Establishing Phase

The 2025 phase establishes the initial architectural framework through modular, elevated structures organized along the shoreline to define research and public zones while structuring controlled circulation and observation networks. Adaptable structural systems and early underwater ecological infra-structures are introduced to initiate habitat formation and anticipate tidal fluctuation and future sea-level rise.

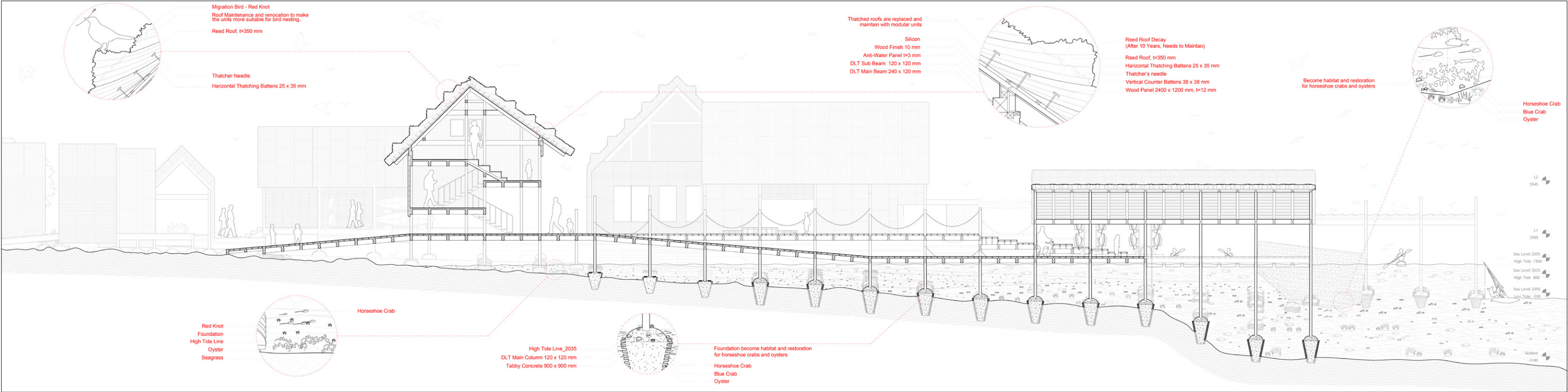




Section and Detail _ 2025



Section and Detail _ 2055



03. Mirrors in the Desert

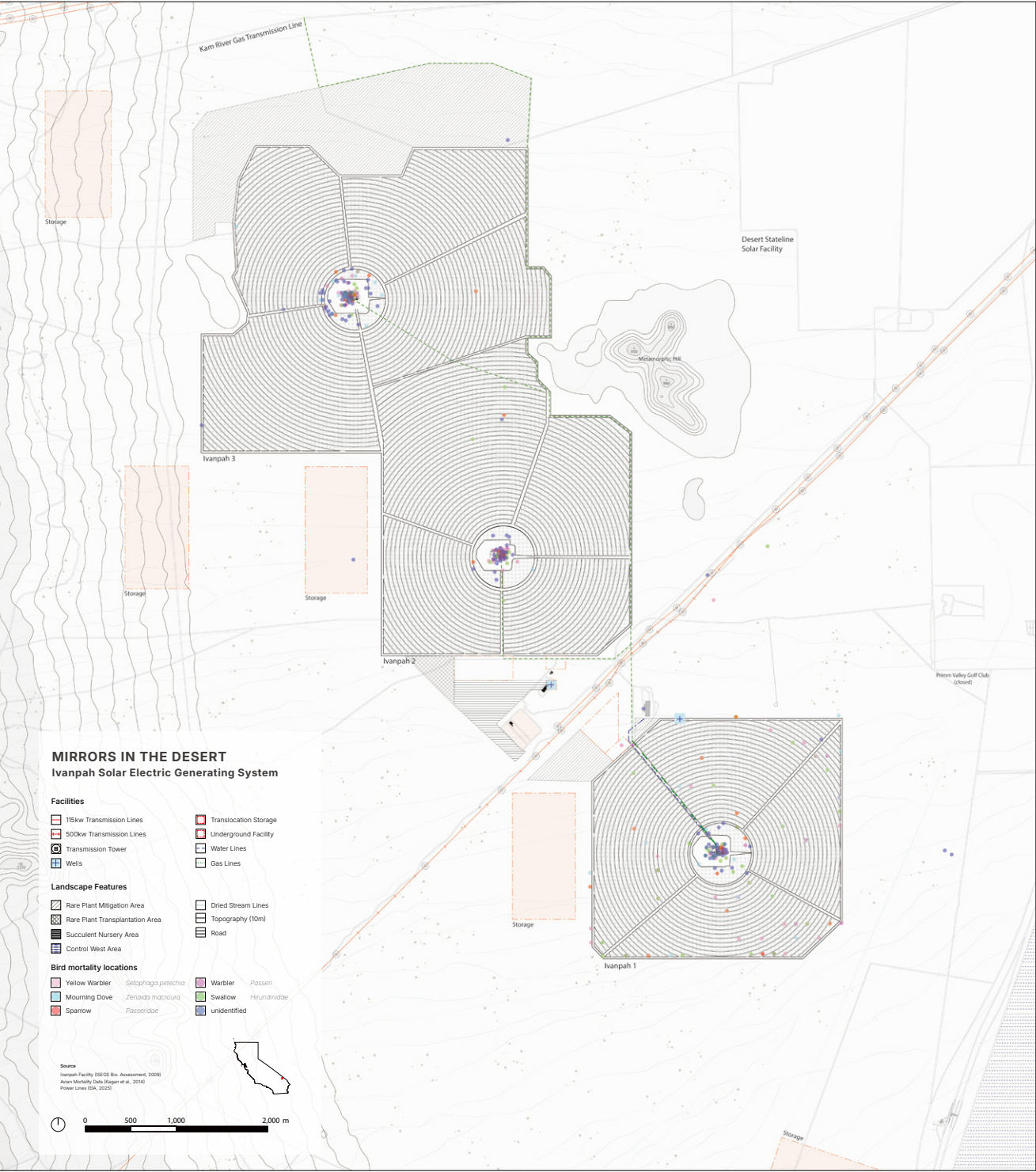


Invisible Ecologies within Green Infrastructure

Mirrors in the Desert investigates the ecological contradictions embedded within large-scale renewable energy infrastructure. Focusing on the Ivanpah Solar Power Facility, the project reveals the hidden relationships between energy production, animal migration, atmospheric conditions, and environmental violence through mapping, film, and speculative spatial intervention.

Summer 2025
Type
Site
Instructor
Team

Research Installation
Mojave Desert, CA
Ferrari + Hunchuck
Yoon Ah Kim, Hyunju Kim

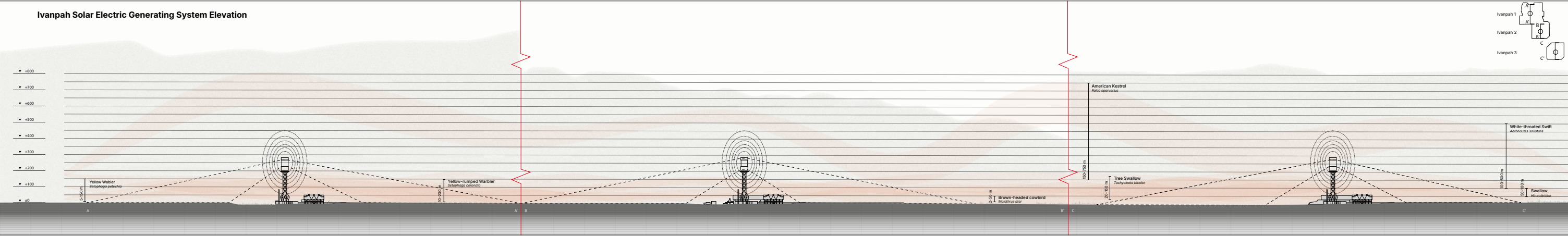
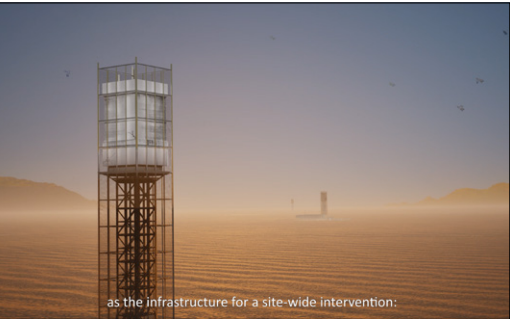


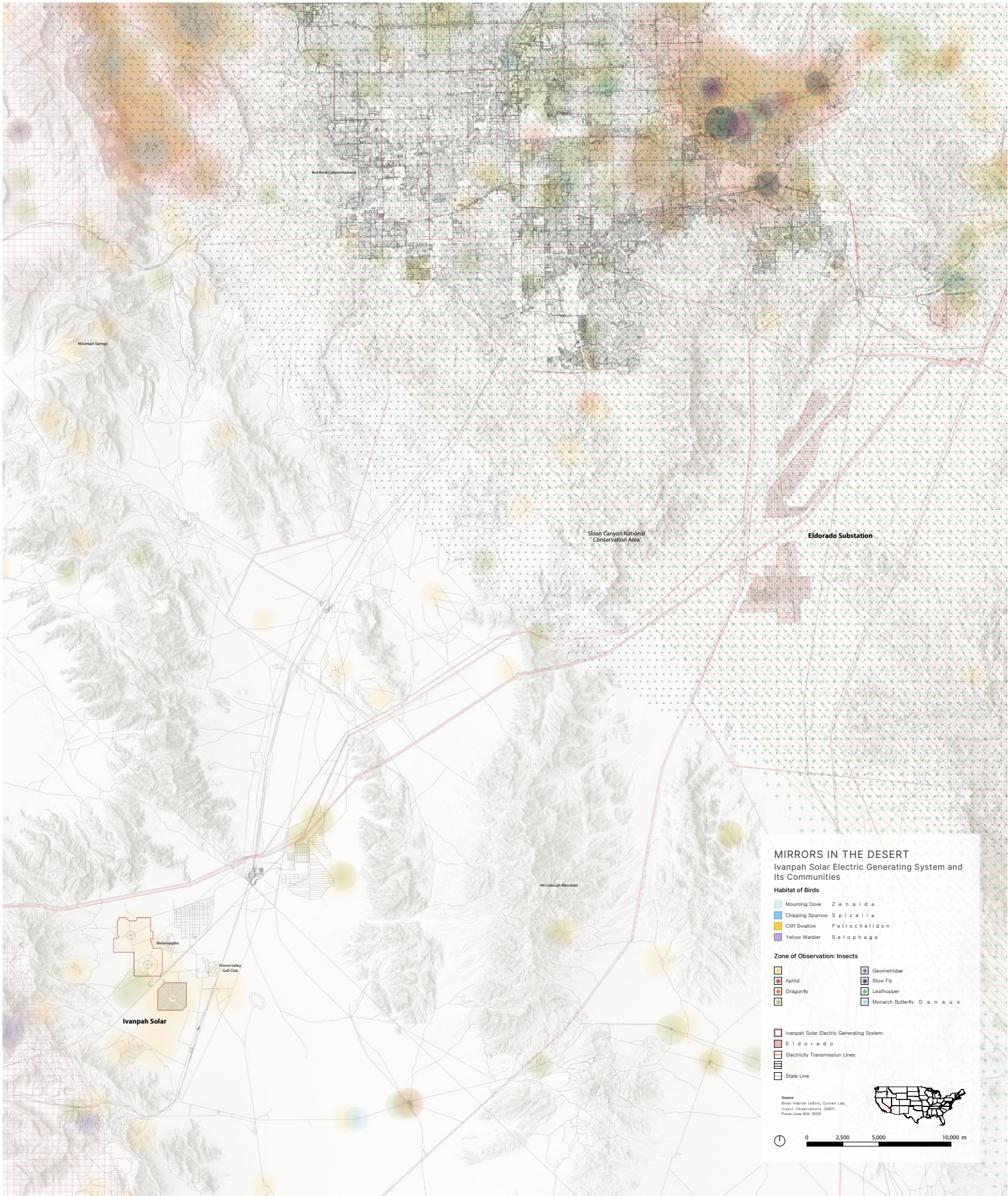
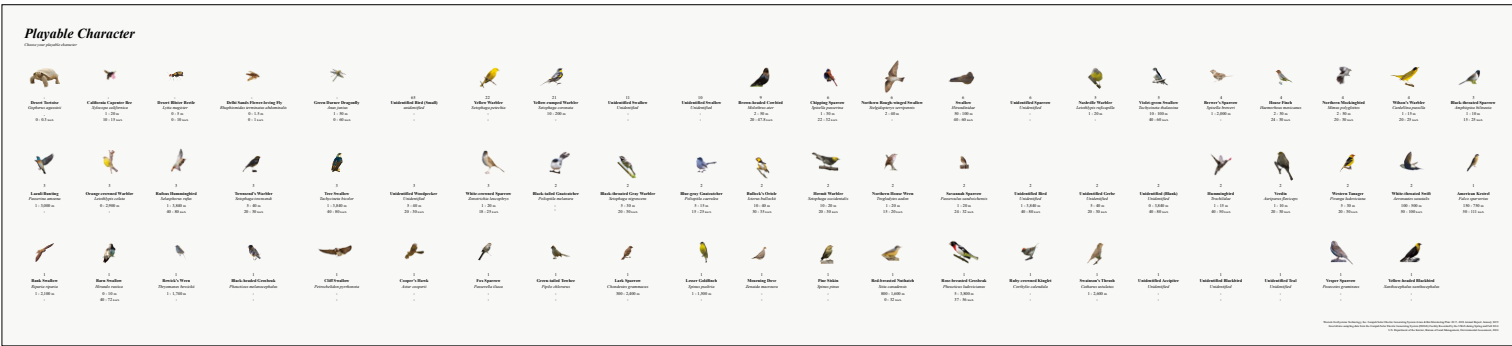
Ecological Conflict within Renewable Infrastructure

The project begins with the ecological paradox embedded within contemporary renewable energy systems. Although large-scale solar infrastructure is promoted as a sustainable alternative to fossil fuel energy, these systems often generate new forms of environmental violence that remain largely invisible. Located within the Mojave Desert, the Ivanpah Solar Power Facility operates as both an energy landscape and an ecological trap, disrupting migratory paths, atmospheric conditions, and habitats for birds and insects.

The project investigates these hidden relationships through mapping, visualization, and speculative media. Bird migration routes, insect activity zones, solar reflection fields, and operational territories are layered together to reveal how infrastructure reorganizes ecological systems across multiple scales. Rather than understanding the site solely as an engineering object, the project frames Ivanpah as a dynamic environmental system shaped by conflict, attraction, heat, light, and movement.

Through film, mapping, and spatial speculation, Mirrors in the Desert explores how architecture can make these invisible ecological conditions perceptible. The project asks how representation itself can become a tool for exposing environmental contradictions embedded within the aesthetics of green infrastructure.





04. Calibrated Comfort : Environmental Equity



Environmental Performance and Vertical Integration

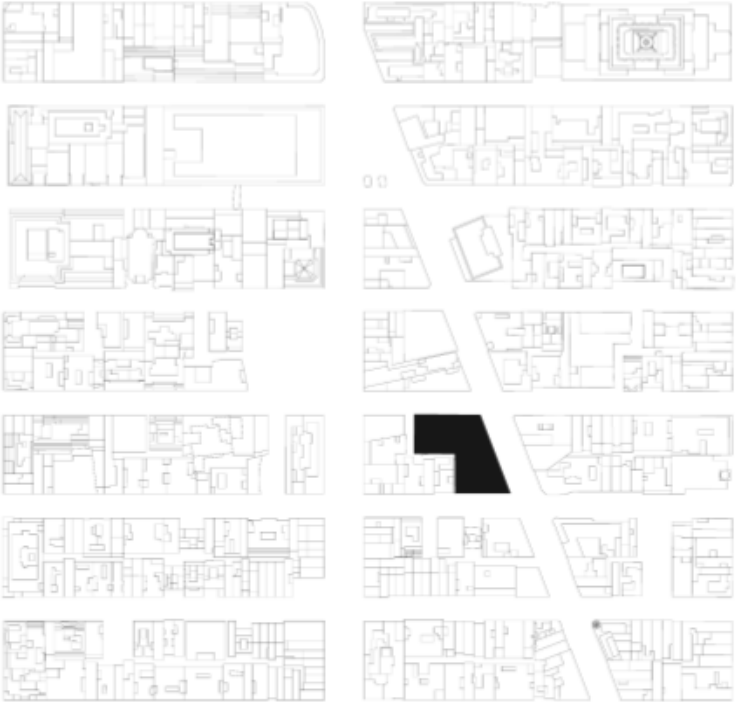
The project explores how environmental performance, program, and circulation can be integrated within a high-rise mixed-use tower. Through BIM workflows and computational analysis, the design organizes office, residential, hospitality, and public programs into a continuous vertical system.

Spring 2026
Type
Site
Instructor
Team

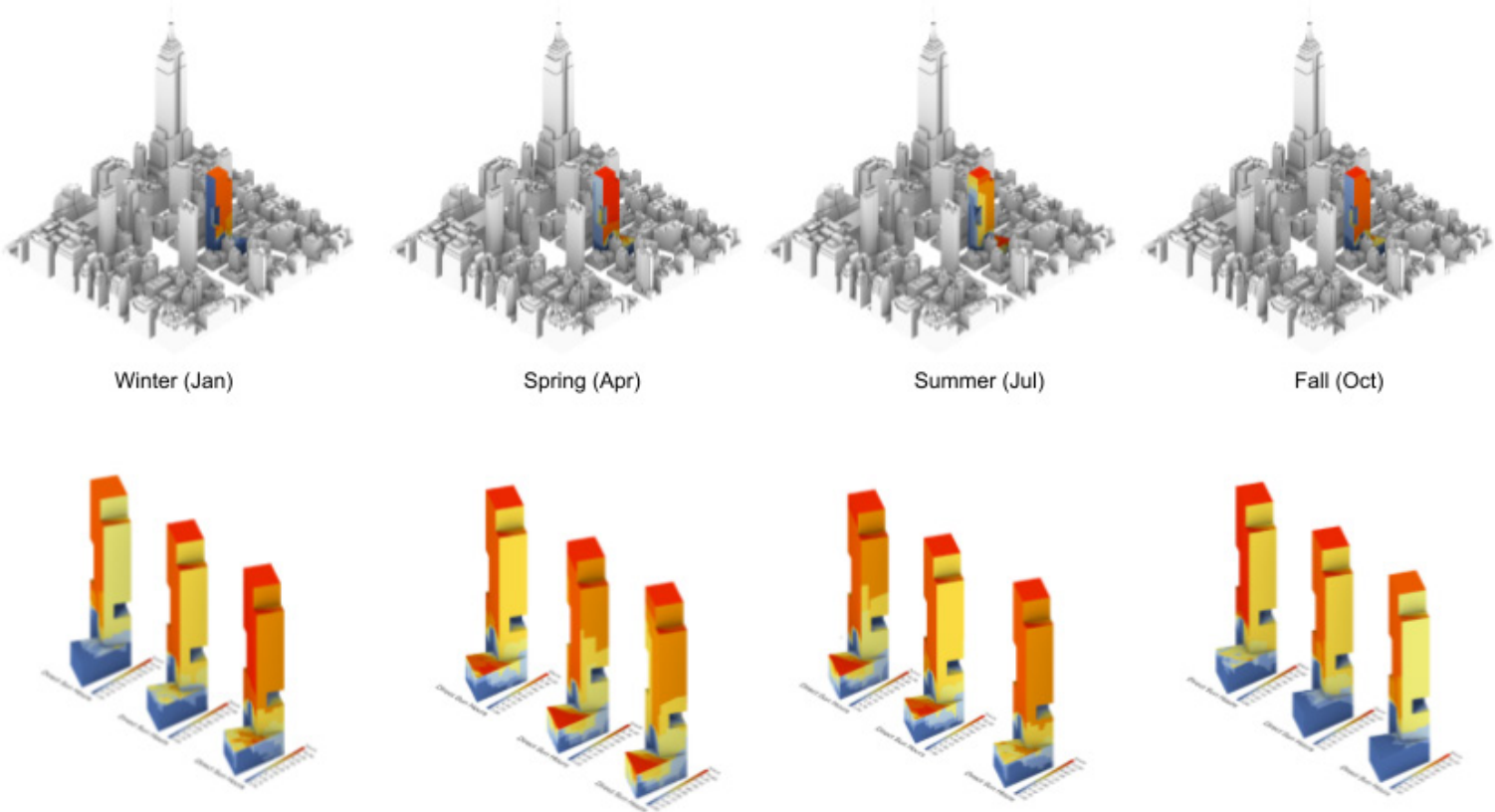
Mixed-Use, high-Rise
Manhattan, NY
Joseph A. Brennan
Yoon Ah Kim, Hyunju Kim,
Hee Leong Lim

M1-8A / R12

1227 Broadway, New York, NY 10001

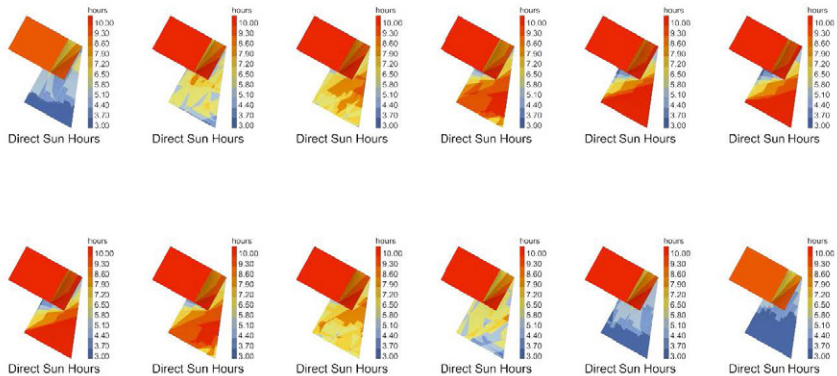
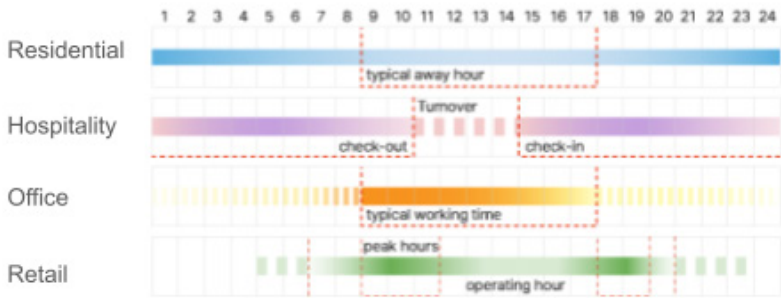


Program	Retail Office Hospitality Residential
Lot Area	29,990 ft²
Zoning Uses & FAR	• Retail, office, light manufacturing, residential allowed. • Hotel requires CPC special permit. • Residential only: 18 FAR = 539,820 sf • Commercial only: 12 FAR = 359,880 sf • Mixed-use cap: total ≤ 18 FAR (539,820 sf) • With bonus: up to 21.6 FAR (647,784 sf)
Streetwall / Base	<u>Height range</u> 60–155 ft continuous streetwall along street frontage • Wide street (≥ 75 ft, Broadway): 10 ft setback • Narrow street (< 75 ft): 15 ft setback
Setbacks	<u>Above base height</u> • Wide: ~7.6:1 • Narrow: ~5.6:1
Tower Rule	<u>Effective slope equivalent</u> Floor Plate ≤ 50% lot area → ~14,995 sf max per floor Above 350 ft

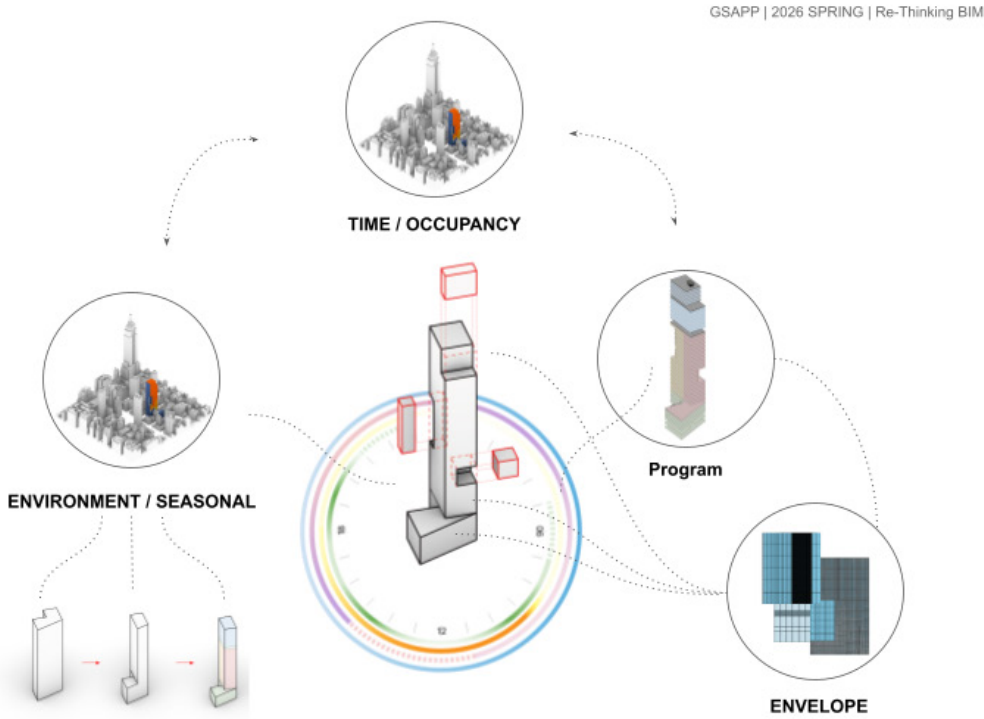
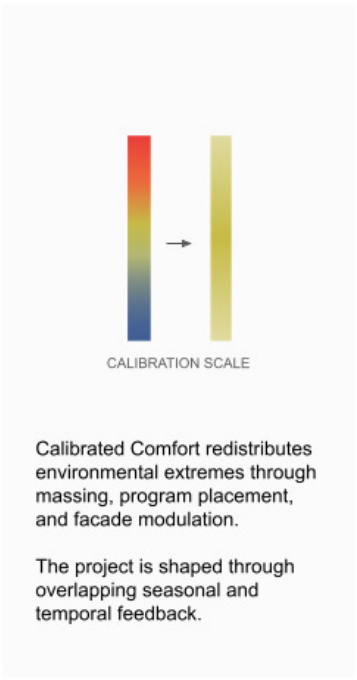


Thermal Performance and Solar Response

Environmental analysis informed the tower massing and façade system throughout the design process. Solar exposure and thermal studies were used to evaluate heat gain, daylight, and environmental conditions across the building. Areas with high solar exposure were recessed or protected through setbacks and façade depth, reducing heat gain while maintaining natural light and views. The project integrates thermal performance directly into the architectural organization of the tower.



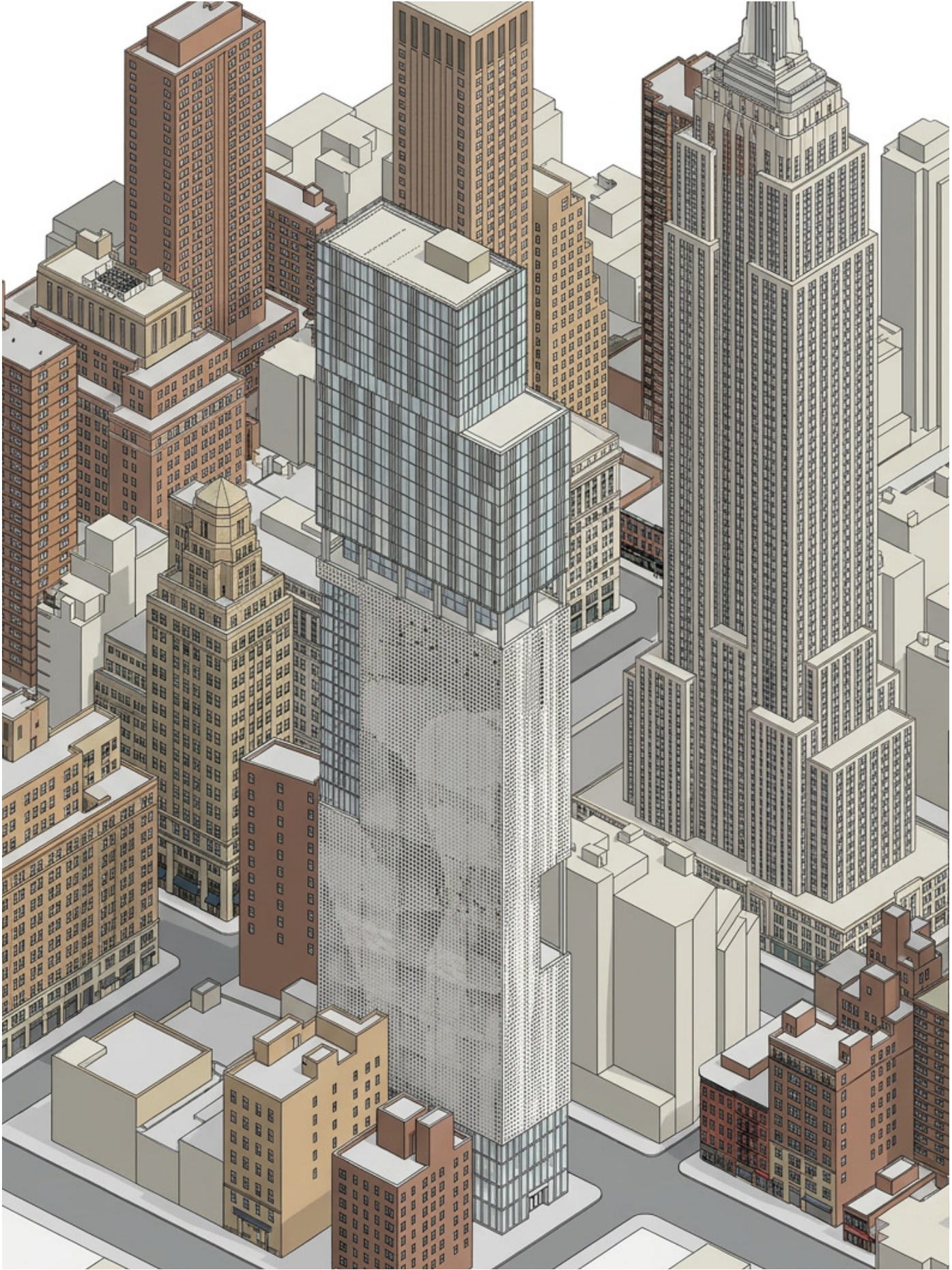
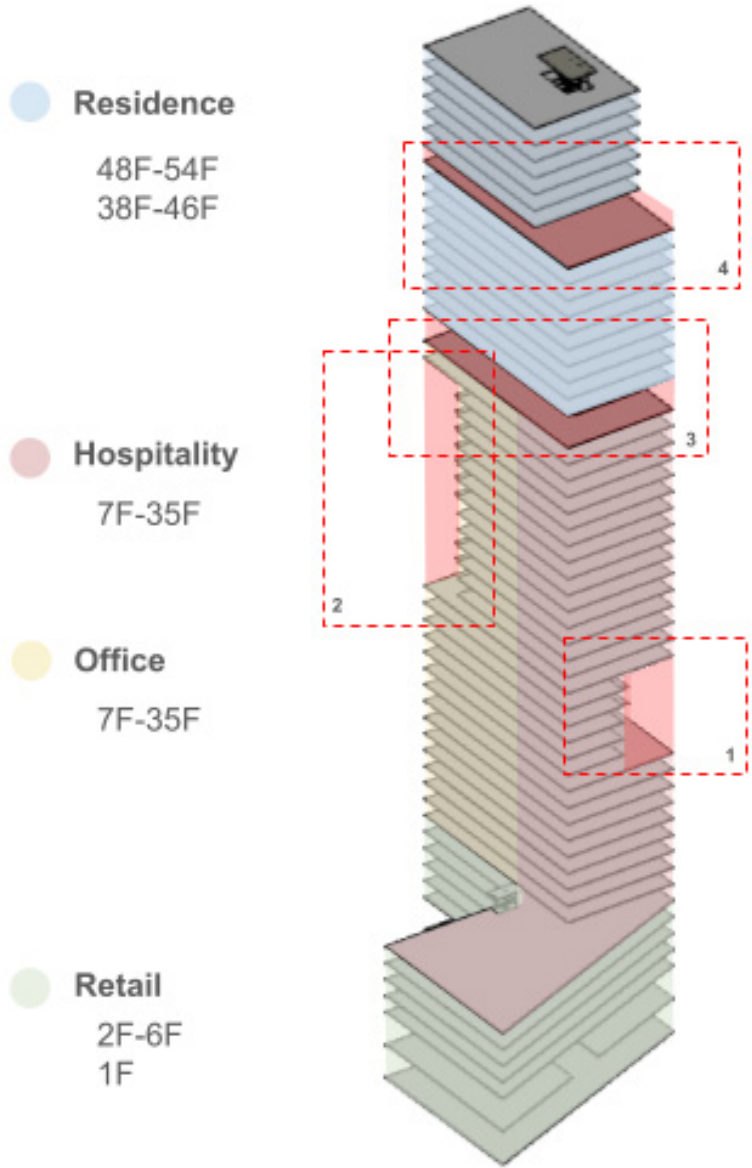
Calibrated Comfort



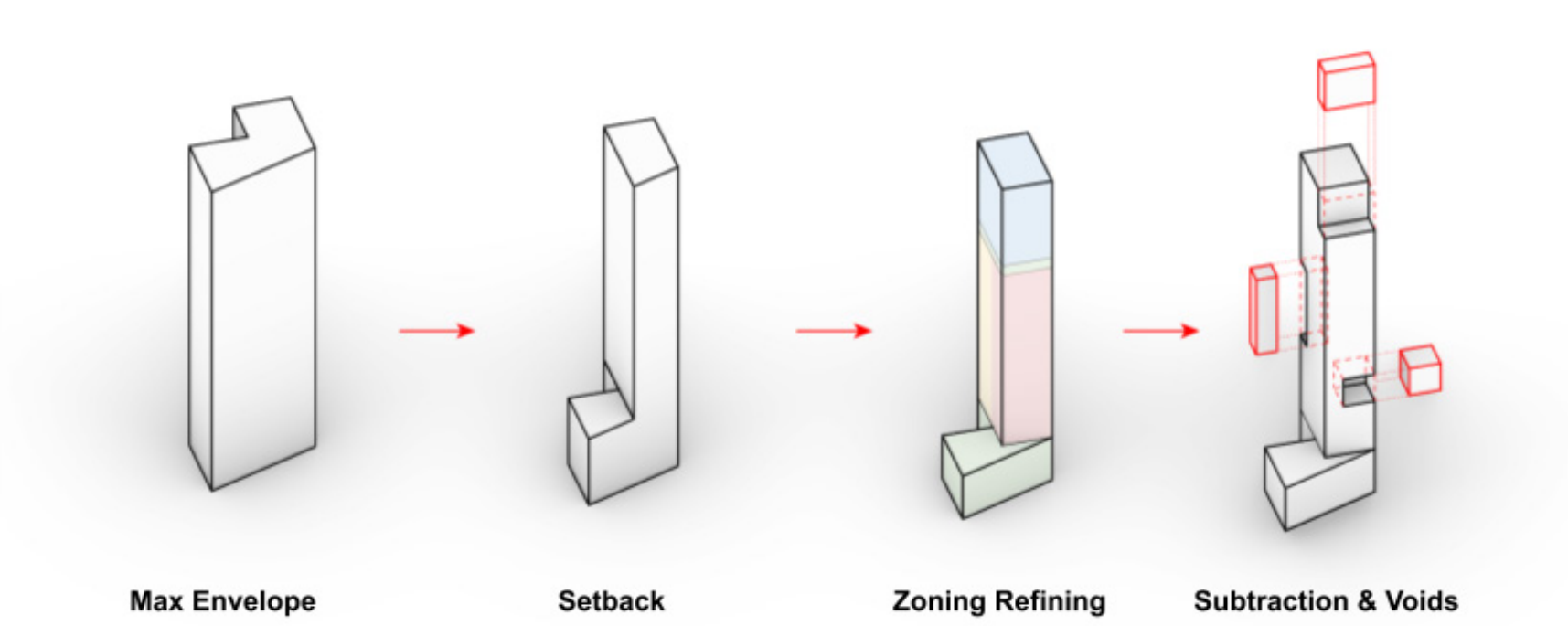
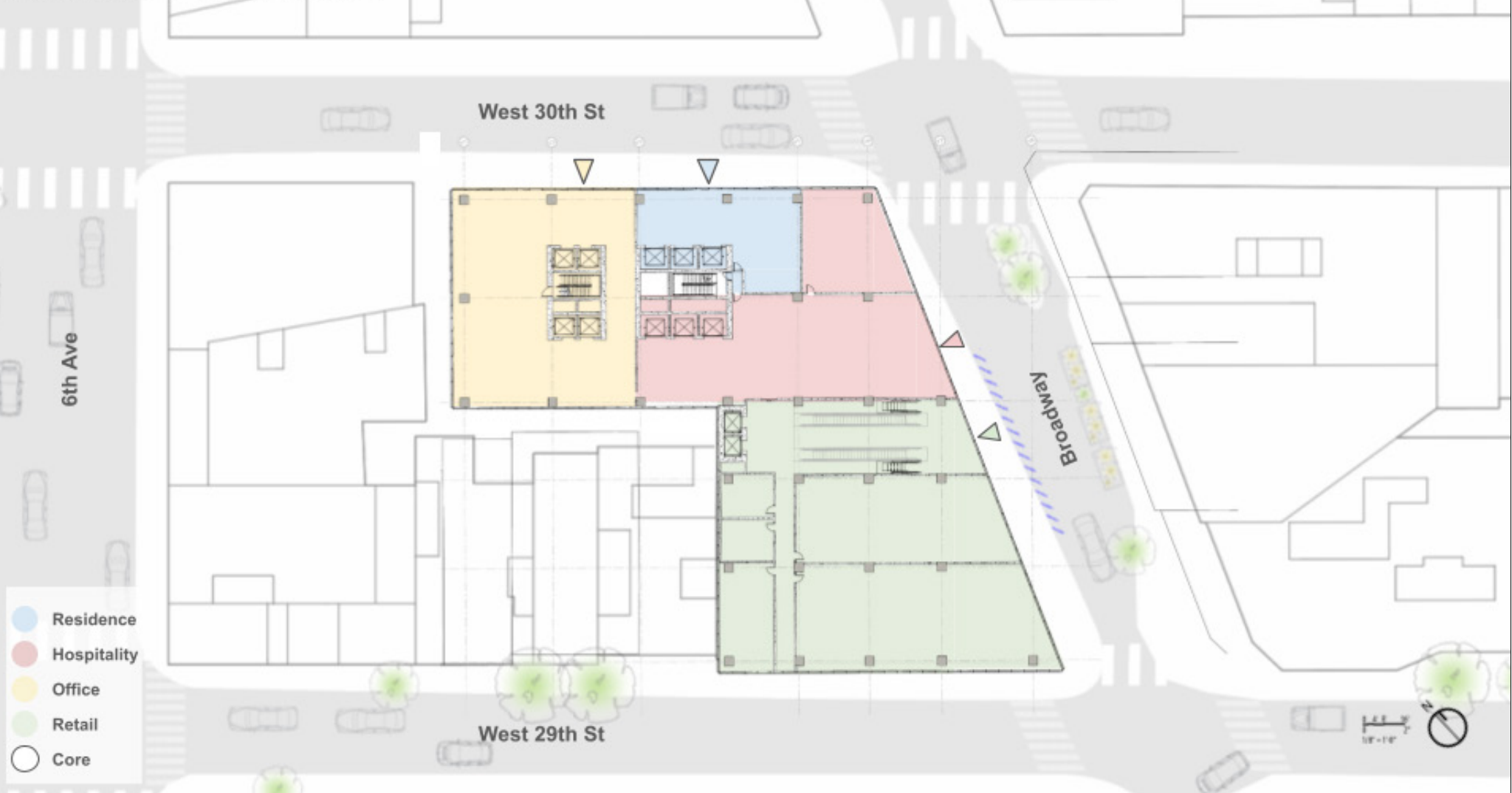
Programmatic Integration within the Tower

The tower combines residential, office, hospitality, and retail programs within a single vertical system. Rather than separating each function into isolated zones, the project introduces shared environmental spaces, setbacks, and circulation voids that create relationships between different programs throughout the building.

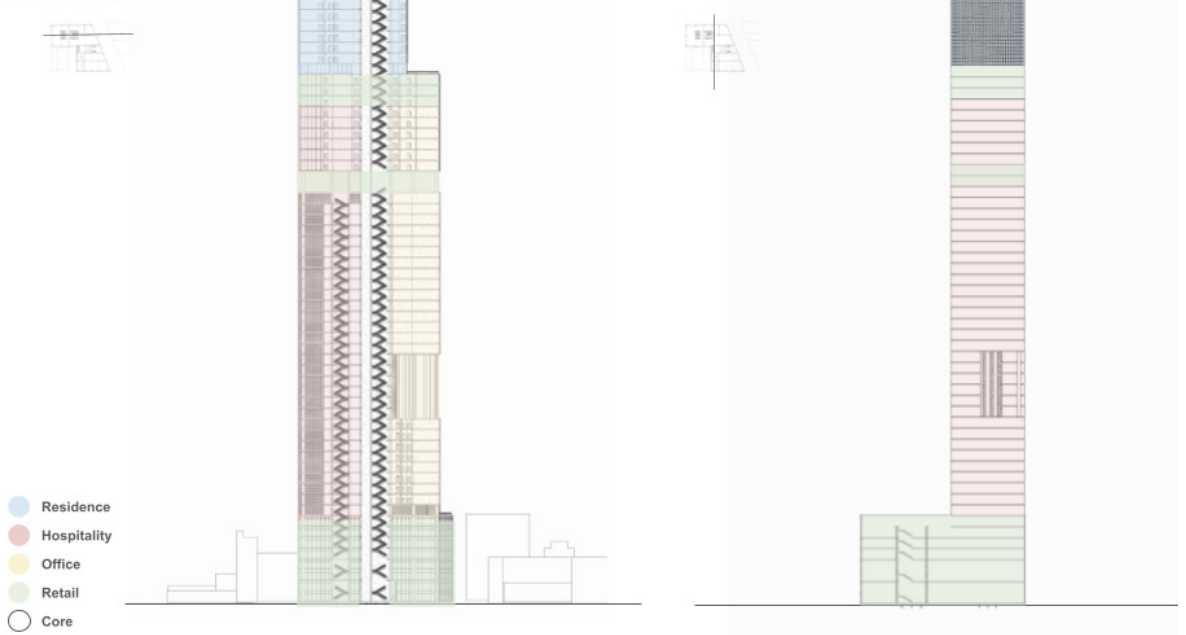
Retail activates the ground level and strengthens the connection to the surrounding streetscape, while office and hospitality programs occupy the central portion of the tower with direct access to communal spaces and environmental terraces. Residential units are positioned above, where larger setbacks and shared gardens provide spatial openness and collective living environments within the dense urban context.



Ground Floor Plan



Section



INPUT PARAMETERS

Solar Radiation Grid Density (U/V Count)

SHADING CONTROL

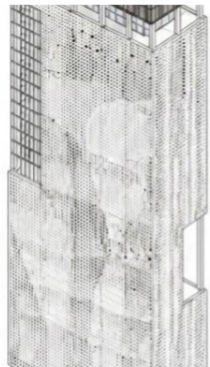
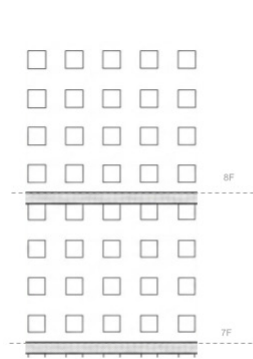
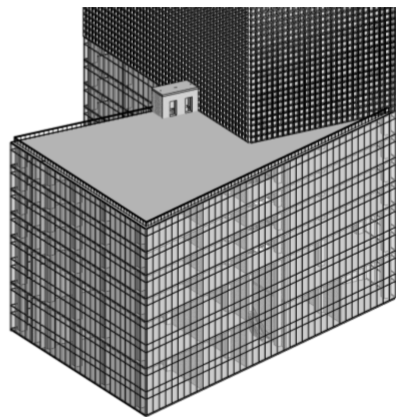
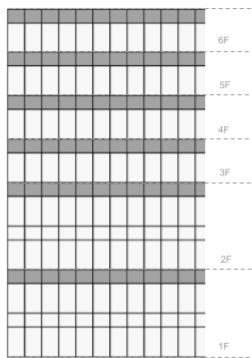
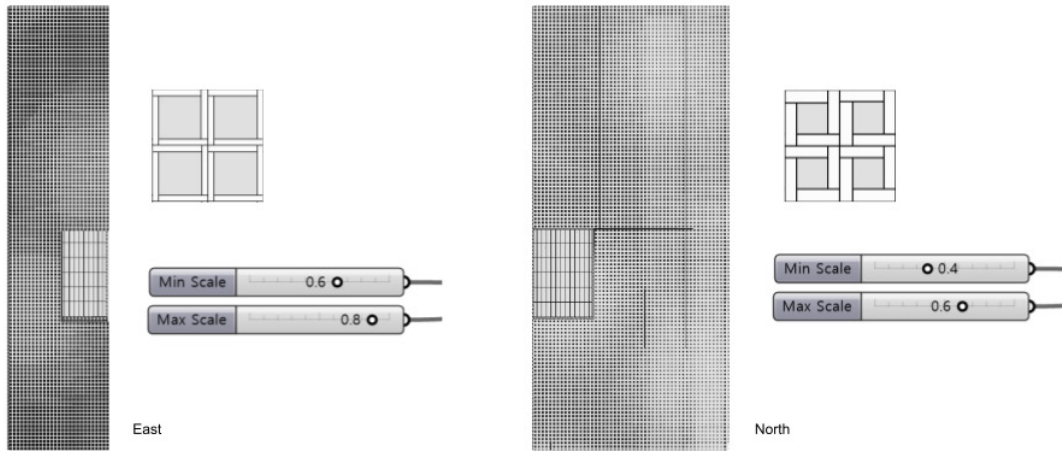
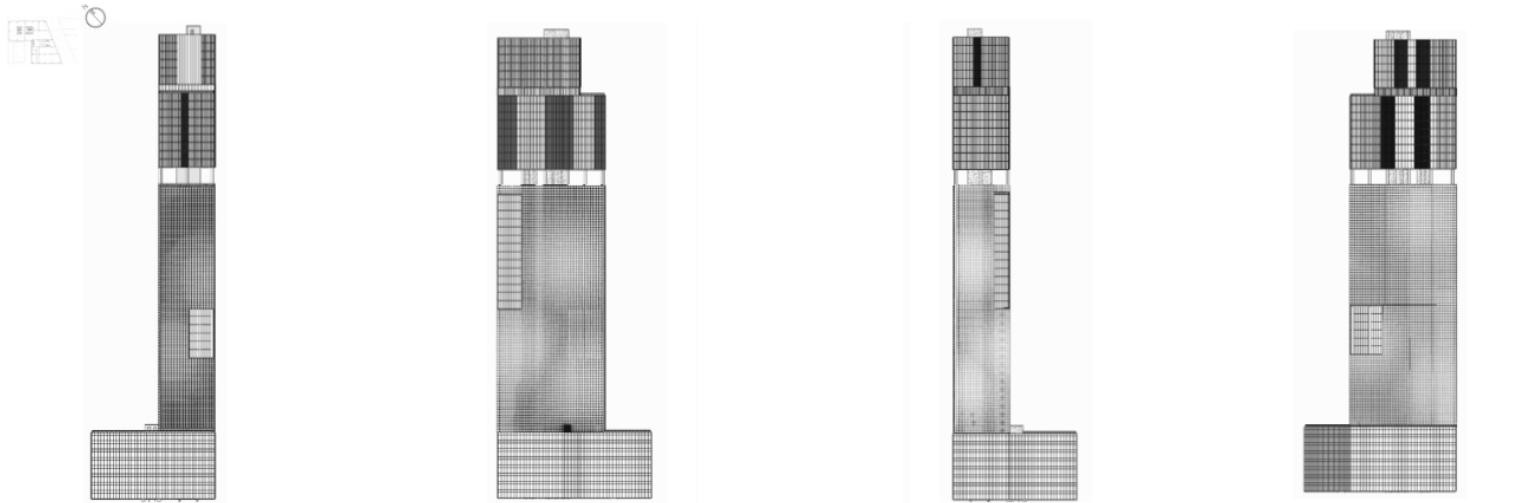
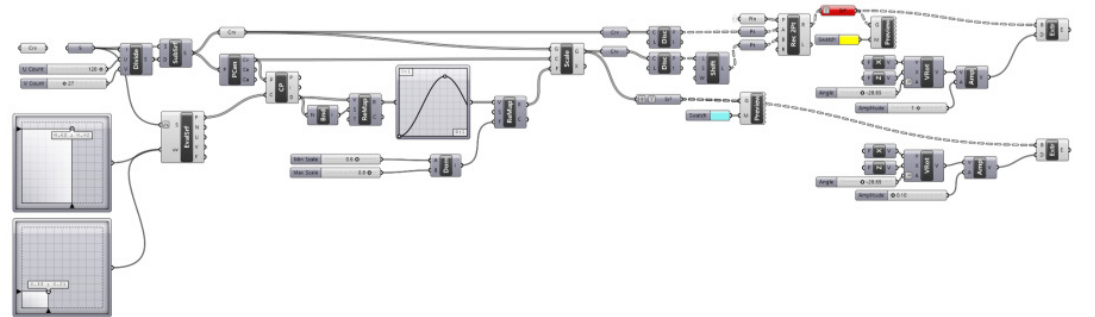
Depth

LIGHT CONTROL

Rotation

DAYLIGHT - SHADING

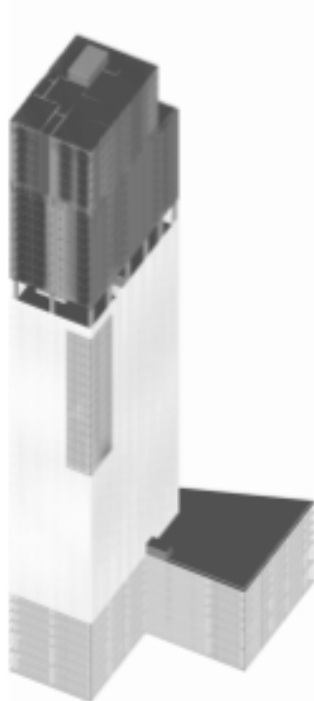
Opening Size



NE



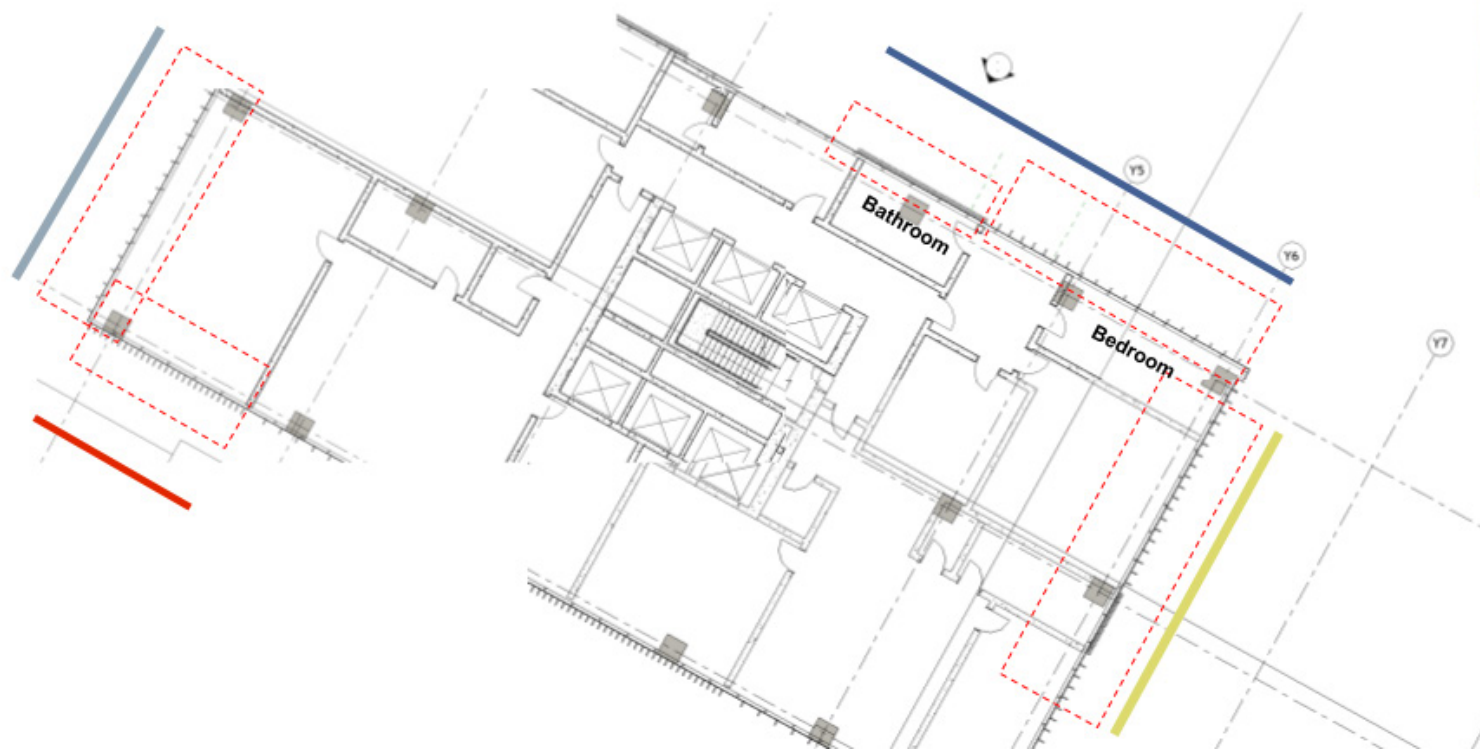
SE



SW



NW



05. Seed Bombs

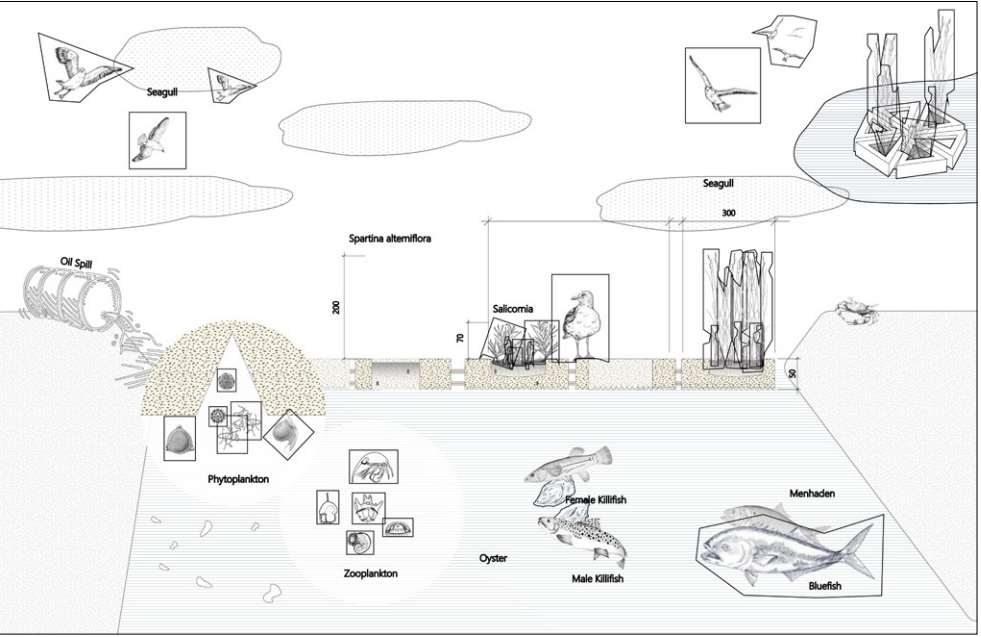
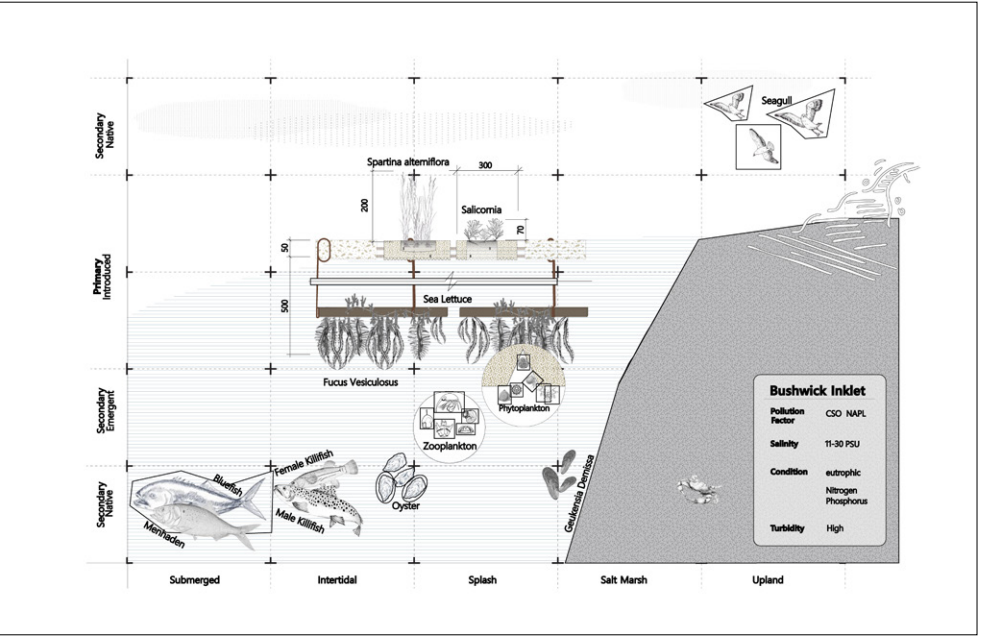


Floating Ecologies

The project explores how lightweight floating structures can support ecological growth within urban waterways. Using cork as a primary material, the installation creates temporary habitats that drift, accumulate, and interact with the changing environmental conditions of the river.

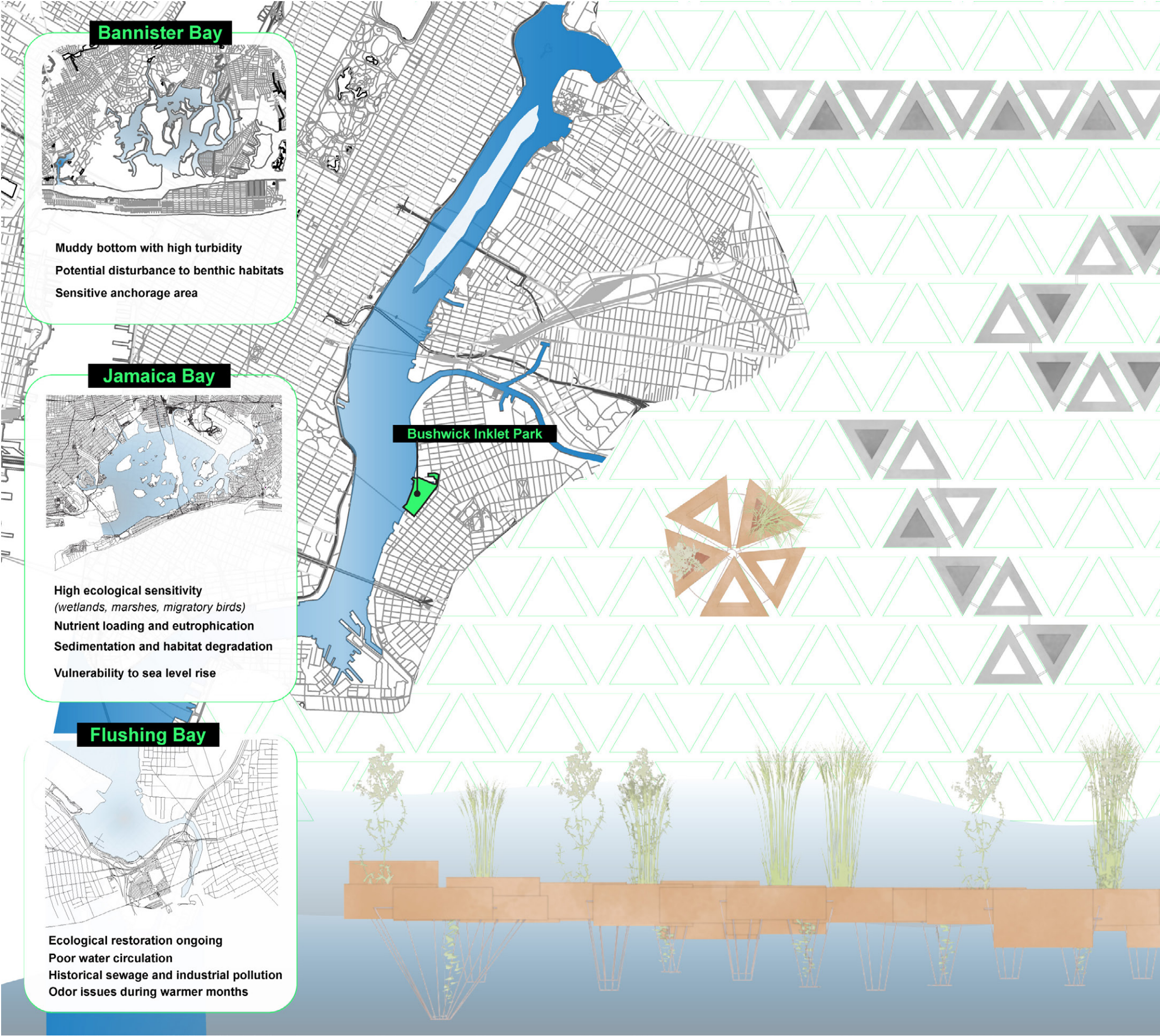
Fall 2025
Type
Site
Instructor
Team

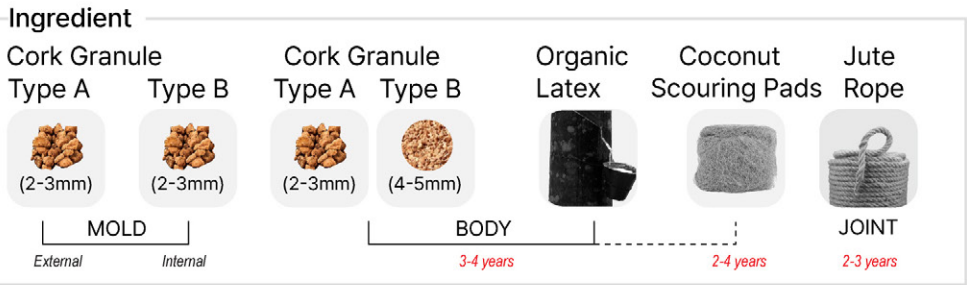
Ecological Installation
Bushwick Inlet Park, NY
Emily Bauer
Yoon Ah Kim



Ecological Conditions of Bushwick Inlet

Bushwick Inlet exists as a constantly changing ecological edge shaped by tides, industrial history, urban runoff, and seasonal environmental fluctuations. Located between dense urban development and the East River, the site operates as both public waterfront infrastructure and a fragile ecological zone where water, vegetation, sediment, and debris continuously interact. The project begins with an analysis of these environmental conditions rather than a fixed architectural form. Tidal movement, floating accumulation, sunlight exposure, water currents, and material decay were studied as active systems capable of shaping spatial behavior over time. Instead of imposing a permanent object onto the site, the proposal explores how lightweight floating structures can adapt to these changing conditions and participate within the ecology of the inlet.

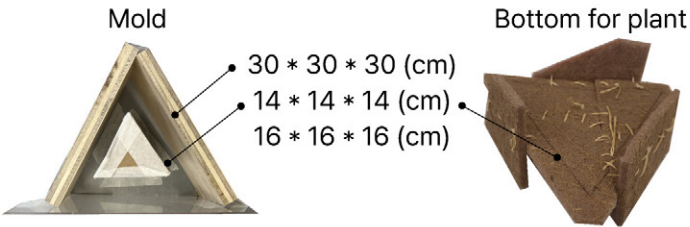




Fabrication Process

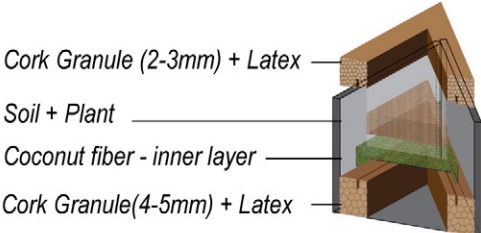
Step. 1 Preparation

Create a mold using coated recycled wood, based on an inner line of 30 cm
Make the inner layer by weaving coconut scouring pads with thread



Step. 2 Mix

Cork Granule: Latex = 100 : 18-20
Room Temperature Curing: 48-72h



Step. 3 Make Hole + String

Use chopsticks to punch holes in the corners, then tie and pass jute rope through

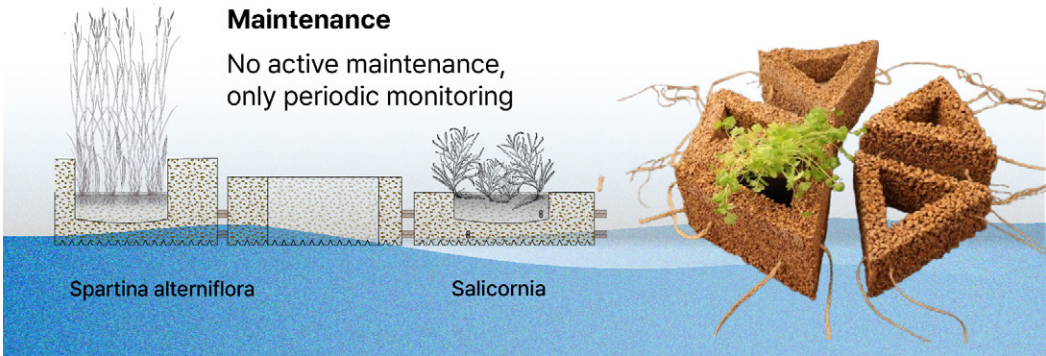


Step. 4 Tangle

Connect each module using the jute rope

Maintenance

No active maintenance, only periodic monitoring



Processes for Recycling

Technosphere

NONE X

Biosphere

- Mulch / Soil amendment
- Decomposes into organic compounds
- Compost /Soil improvement
- Compost /Soil improvement
- Cork
- Latex
- Jute
- Coconut fiber

Maintenance Needs

- No active maintenance, only periodic monitoring
- Volunteers observe decomposition and ecological changes
- Minimal cleanup if fragments disperse

Productive Outputs

Compostable Material



Kelp



Pollution Remediation



Sourcing

Lifespan

BODY

3-4 years

Cork Granule



Organic Latex



Cork Granule: Latex = 100 : 18-20 Room Temperature Curing: 48-72h

Coconut Scouring Pads

2-4 years



Joint

Jute Rope

2-3 years



Information Network

Data Collection

Water quality: salinity, turbidity, oxygen, temperature
Performance: material decomposition, float durability
Biodiversity: algae, invertebrates, fish, birds

Education

Citizen science with FBIP volunteers and students
QR codes/signage on lifecycle and design
Data used in exhibitions and workshops

Advocacy

Sharing ecological value of Bushwick Inlet through data

06. Unorthodox Practice



Continuity over Replacement

Studio H₃ proposes an alternative architectural practice operating within Seoul’s demolition-driven urban environment. Rather than replacing existing buildings, the practice transforms vacancy into continuous use through adaptive reuse, minimal intervention, and long-term spatial reorganization.

Spring 2026
Type
Site
Instructor
Team

Speculative Practice
Seoul, South Korea
Juan Herreros
Hee Leong Lim, Hyunju Kim

