

PORTFOLIO

Kush Shah

2014

/24

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PROFESSIONAL SUMMARY

Advanced Architectural Designer with 5+ years of experience transforming complex concepts into built realities blending advanced technologies. Skilled in streamlining design processes and enhancing project outcomes through innovative tools and workflows. Enthusiastic about problem-solving, I bridge research with practice to develop efficient and innovative spatial systems.

WORK EXPERIENCE

Arthur Chabon Architects – Architectural Designer Level 2

New York, NY, USA

09/2023 - Present

- Led design and project management for high-end residential and institutional projects, including **313W & 315W 53rd Street**, navigating NYC's complex regulatory framework, ensuring multidisciplinary coordination.
- Transformed **Temple Beth Abraham** Synagogue into a 3D representation via point cloud manipulation using **Capturing Reality**, using **Rhino 3D** for modeling, **Enscape** for visualization and **Revit** for documentation.
- Directly liaise with the principal, clients, and consultants to streamline workflows, oversee design iterations and documentation, and resolve on-site challenges, ensuring uninterrupted progress and design excellence.

Andblack Design Studio - Lead Architect

Ahmedabad, Gujarat, India

08/2019 - 07/2022

- Spearheaded the design, development, and execution of 20+ **diverse** architectural projects, ranging from interiors and residential to institutional, commercial, hospitality, and urban **scales**, ensuring powerful integration of form and function across all typologies.
- Integrated parametric designs using **Grasshopper** and **Rhino 3D**, producing detailed drawings, including the **UAE Pavilion** by Santiago Calatrava, collaborating with international consultants to resolve complex geometries.
- Fostered strong client, consultant, and contractor relationships across projects like **Surat National Bank** (commercial) and **Shatayu** (large-scale residential), ensuring seamless coordination of design and resolving on-site challenges across all project stages.
- **Led** and **mentored** a team of junior designers and interns, cultivating a collaborative and dynamic environment to tackle complex design challenges driving innovative solutions and strategic planning.

Connect Four Design Studio - Architectural Intern

Mumbai, Maharashtra, India

01/2018 - 06/2018

- **Conducted extensive research** and developed innovative design concepts for a high-rise residential project, notably **Madhuban**, contributing to forward-thinking architectural solutions.
- Collaborated closely with architects on **Divum** and **Shrishti**, creating precise construction and service drawings utilizing **Revit** for documentation and design coordination.

EDUCATION

New York Institute of Technology

Master of Science, Advanced Architectural Design (MAAD)

09/2022 – 05/2023

Institute of Architecture & Planning, Nirma University

Bachelor of Architecture

08/2014 – 07/2019

SKILLS

Design & Modelling

- AutoCAD
- Revit
- Sketchup
- Z-brush
- Rhino 3D
- Grasshopper
- Capturing Reality
- Python

Visualization & Graphics

- Lumion
- Adobe Illustrator
- Adobe Photoshop
- Adobe InDesign
- Enscape
- Stable Diffusion
- Mid-Journey
- Unity 3D

Fabrication Tools

- 3D - Printing
- Kuka PRC-Robotics
- CNC Milling
- Laser Cutting

PUBLICATIONS

Fluid Architecture: Identifying the intangibles in contemporary architecture-built forms.
(Guide - Prof. Jitesh Mewada)

COMPETITIONS

- RHA Praxis - 5-Star Hotel: Winner – 3rd Position.
- Vol. ZERO - Aquatecture Mercu – Ray: A Temperamental Habitat
- Vol. ZERO - Micro Housing Lego – Tunes: A Community Housing

Contents.

Professional



1. UAE Expo Pavilion



2. Shatayu - Forest Living



3. Surat National Bank



4. Aurangabad School



5. 313 - 315W 53rd Street



6. Miscellaneous - Institutions

Academic



7. Anachronistic Re-Enactment



8. Disruption of Immutable



9. Origami Metal Shell

UAE EXPO PAVILION

Exhibition Space Design

*Design Firm - Santiago Calatrava in Collab
with Andblack Design Studio*

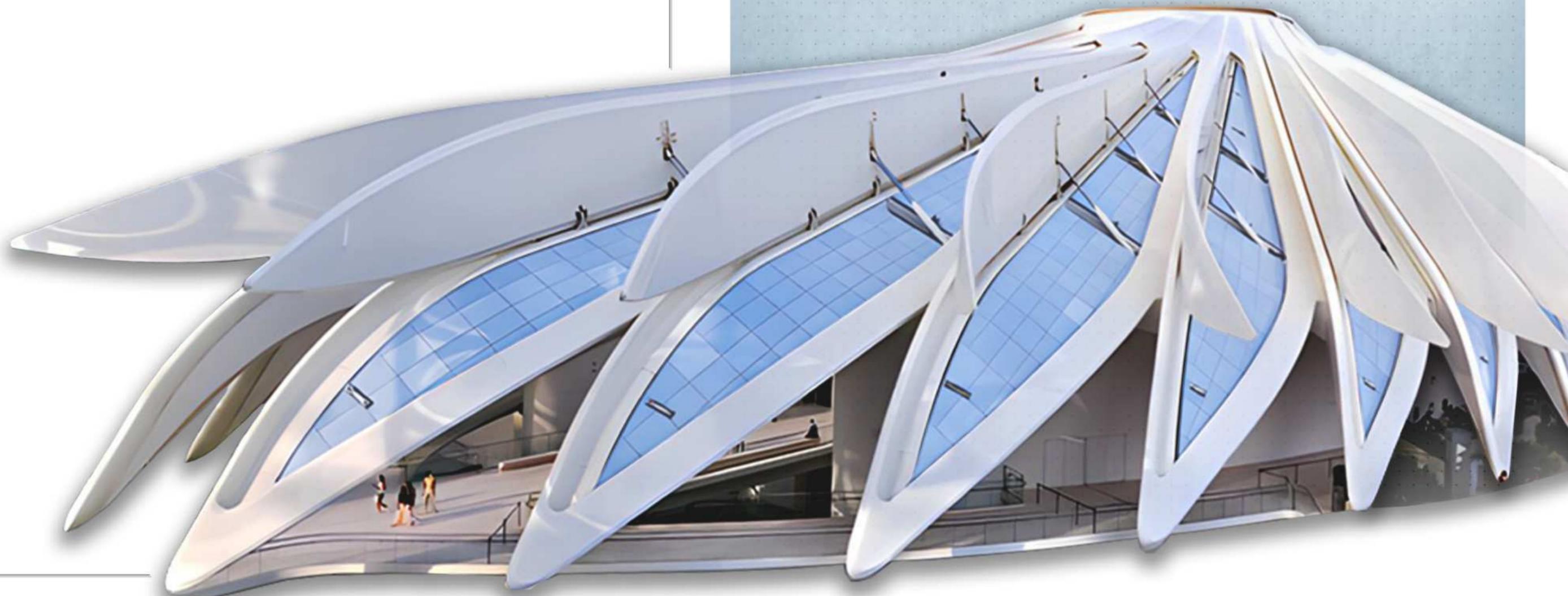
Project Typology - Urban

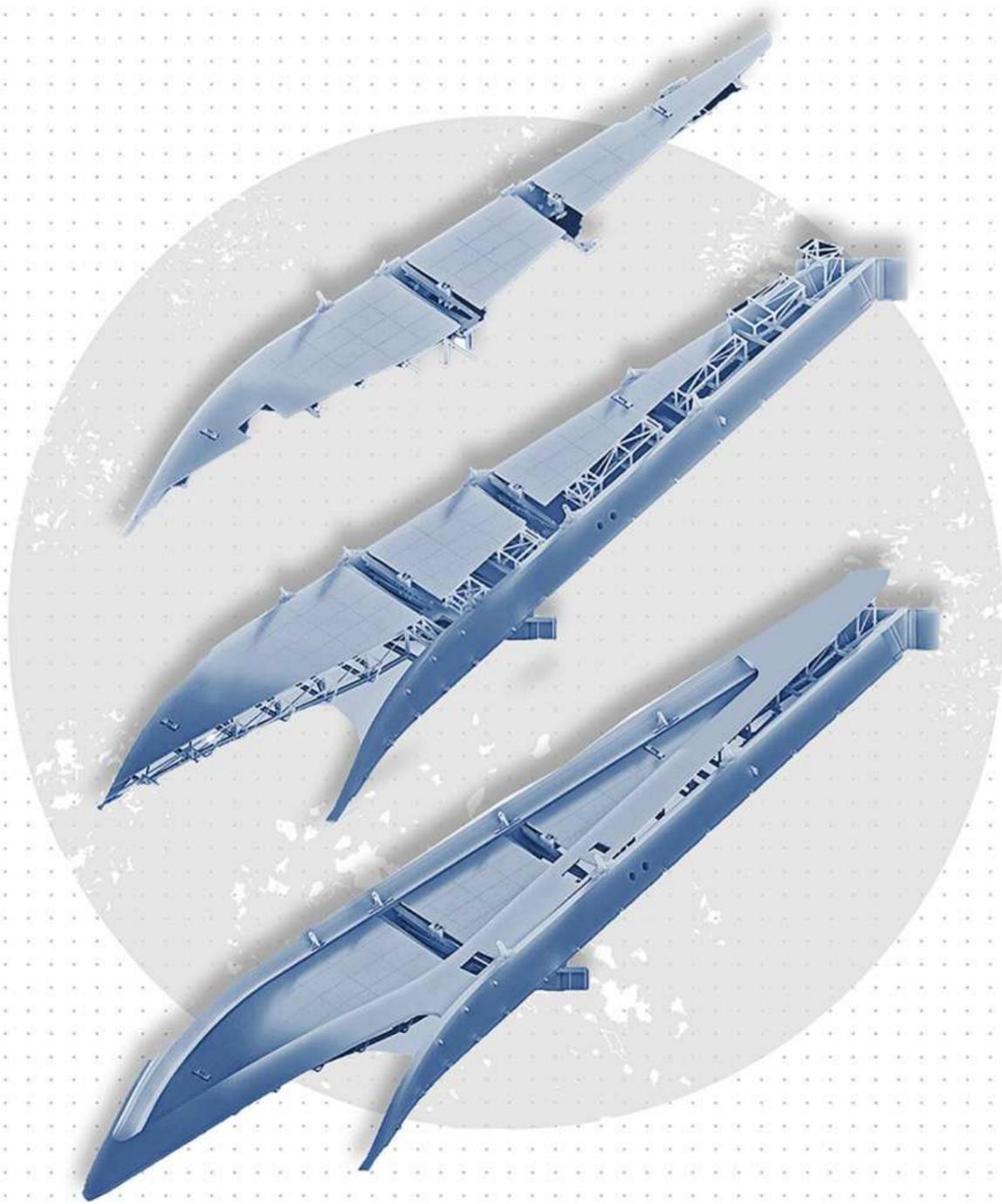
Location - Dubai, UAE

Area- 15000 sqmt.

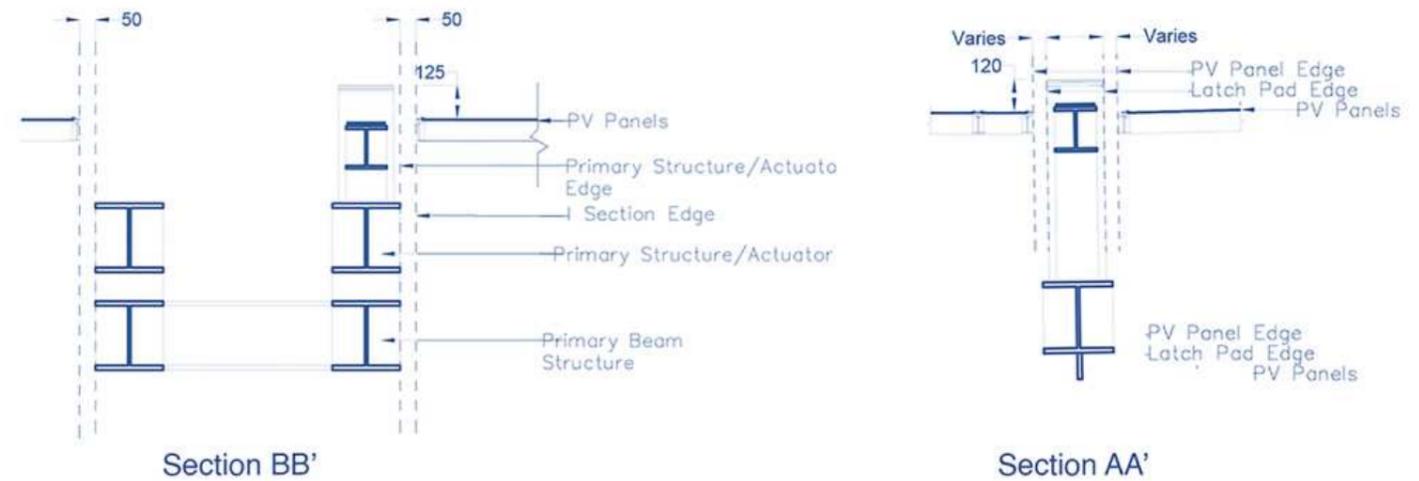
The UAE Expo Pavilion, an exhibition project conceived by Santiago Calatrava, draws inspiration from the elegance and power of the falcon. It is outfitted with advanced kinetic capabilities and innovative architectural features.

The scope of Andblack Studio involved producing comprehensive fabrication and shop drawings for all 28 wings, including latch pad sections, as well as detailing the kinetic mechanisms and photovoltaic (PV) panels integrated within each wing.



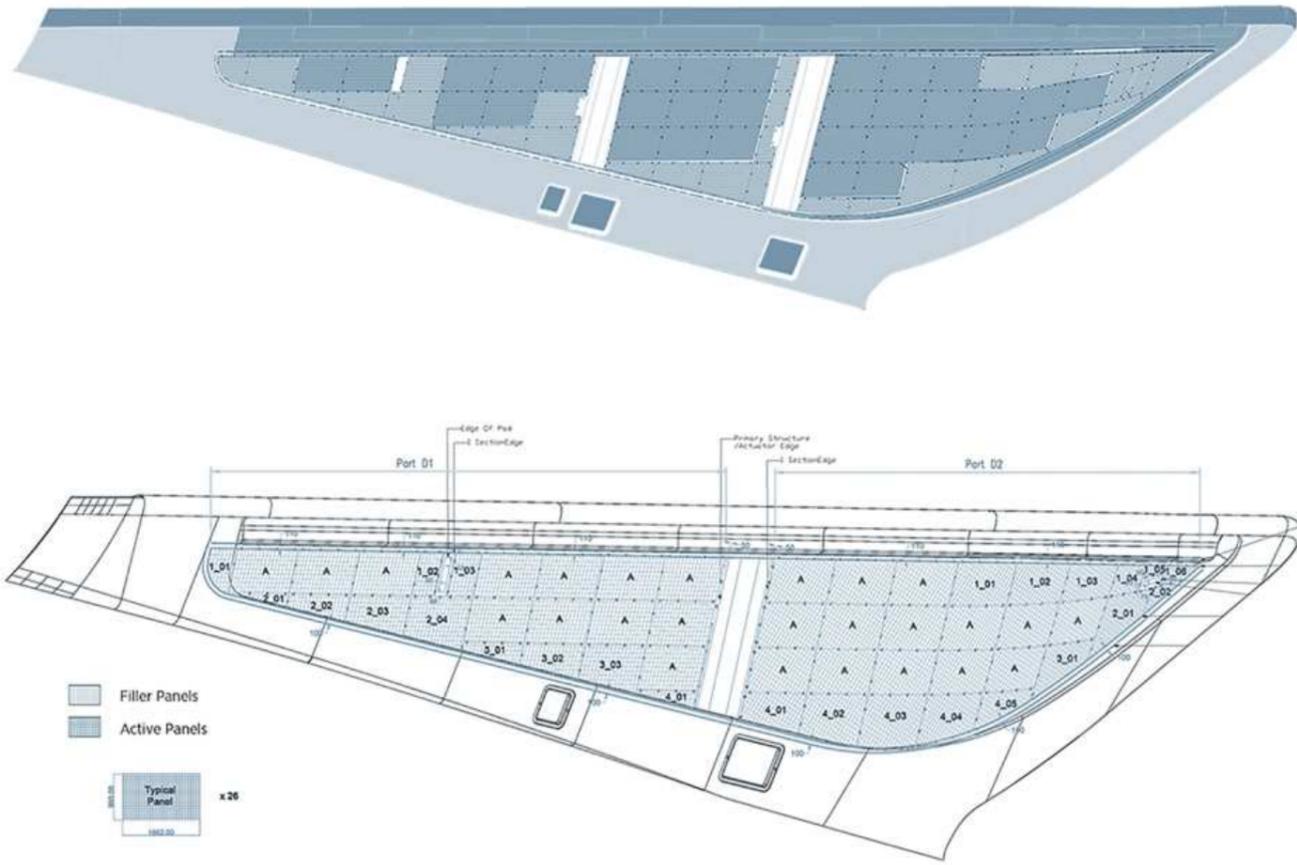


The PV panels, optimize energy efficiency and enhance the facade's aesthetic quality while their strategic placement ensures maximum solar exposure, supporting the pavilion's sustainability goals

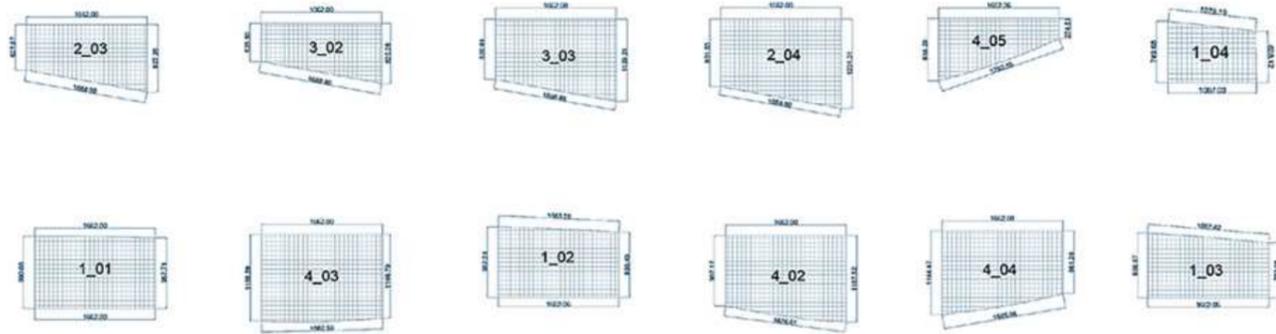


The wings, featuring cutting-edge photovoltaic (PV) panels and kinetic latch pad mechanism, are conceived as dynamic elements that serve both as functional iconic symbols of the pavilion's design.

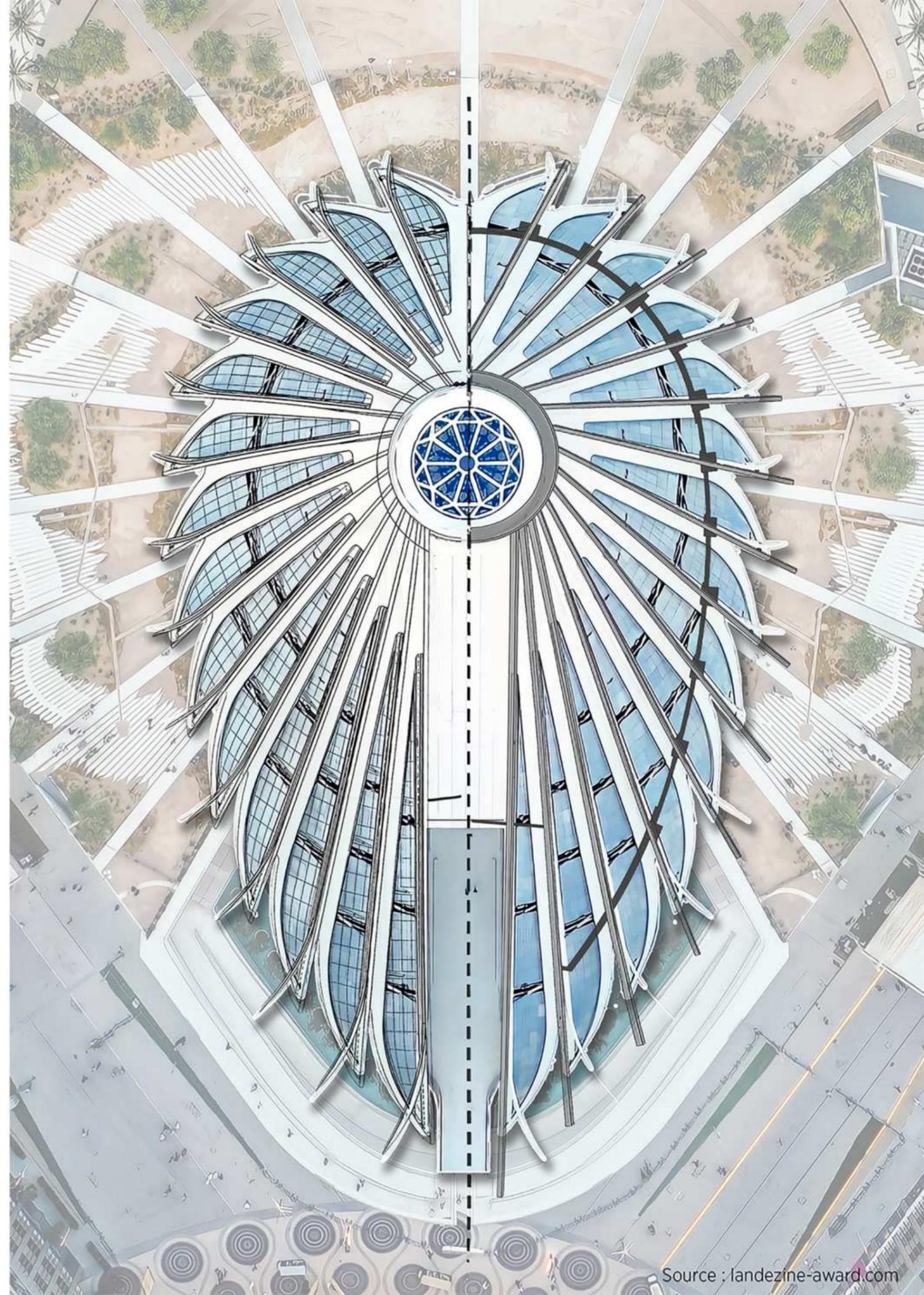
The sections of the latch pad and actuator enable the kinetic movement of the wings, with the mechanism engineered to facilitate adaptability and responsiveness to various environmental conditions.

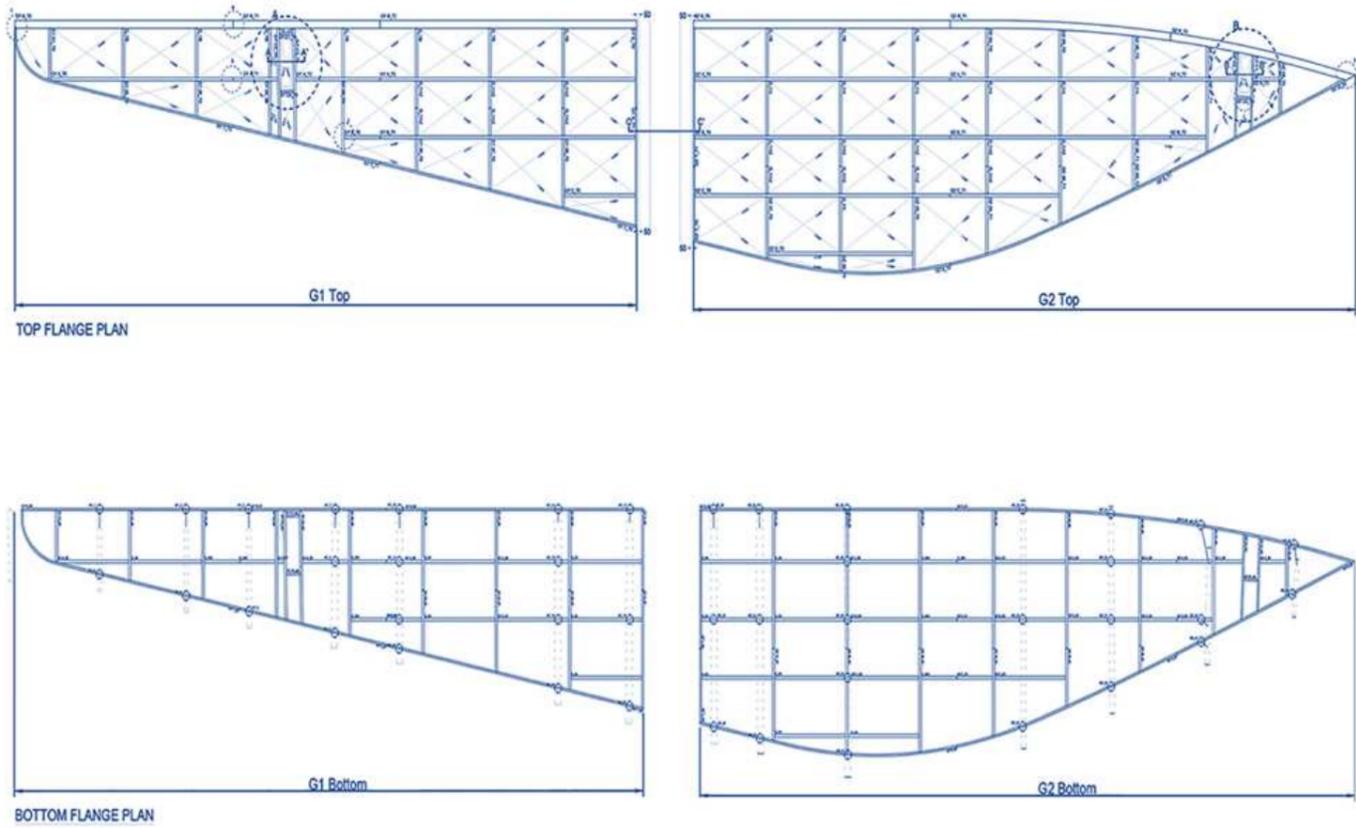


The pavilion features both active and passive PV panels. The active panels contribute to the building's energy performance, while the passive panels enhance its aesthetic presence.

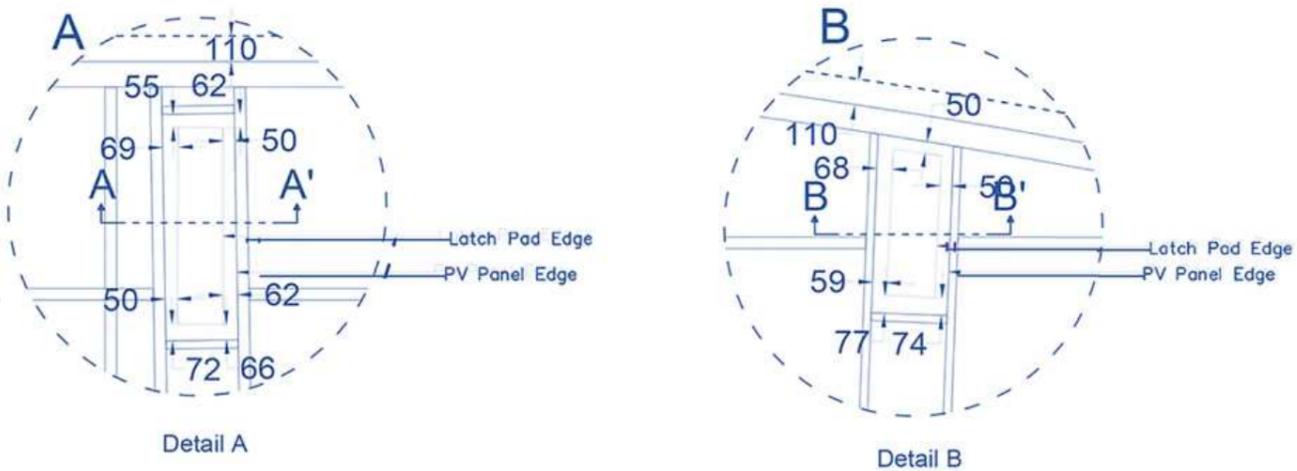


The Passive or "fake" PV panels that serve a primarily aesthetic function. These panels mimic the appearance of traditional PV systems, enhancing the visual dynamics.





The metal assemblies showcased above are Top and Bottom flange of wing placed beneath the (PV) panels play a crucial role in supporting the PV system and reinforcing the structural integrity of the wing.

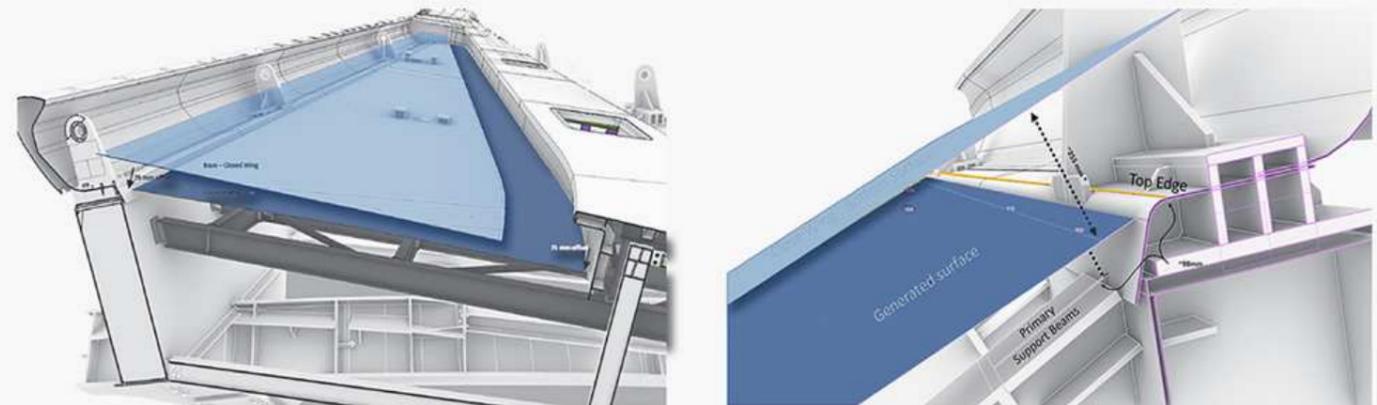


The above represented are the detailed sections through the Latch pads of the wings from where the kinetic mechanism of the flap coming on top of Photovoltaic(PV) Panels of the wing.

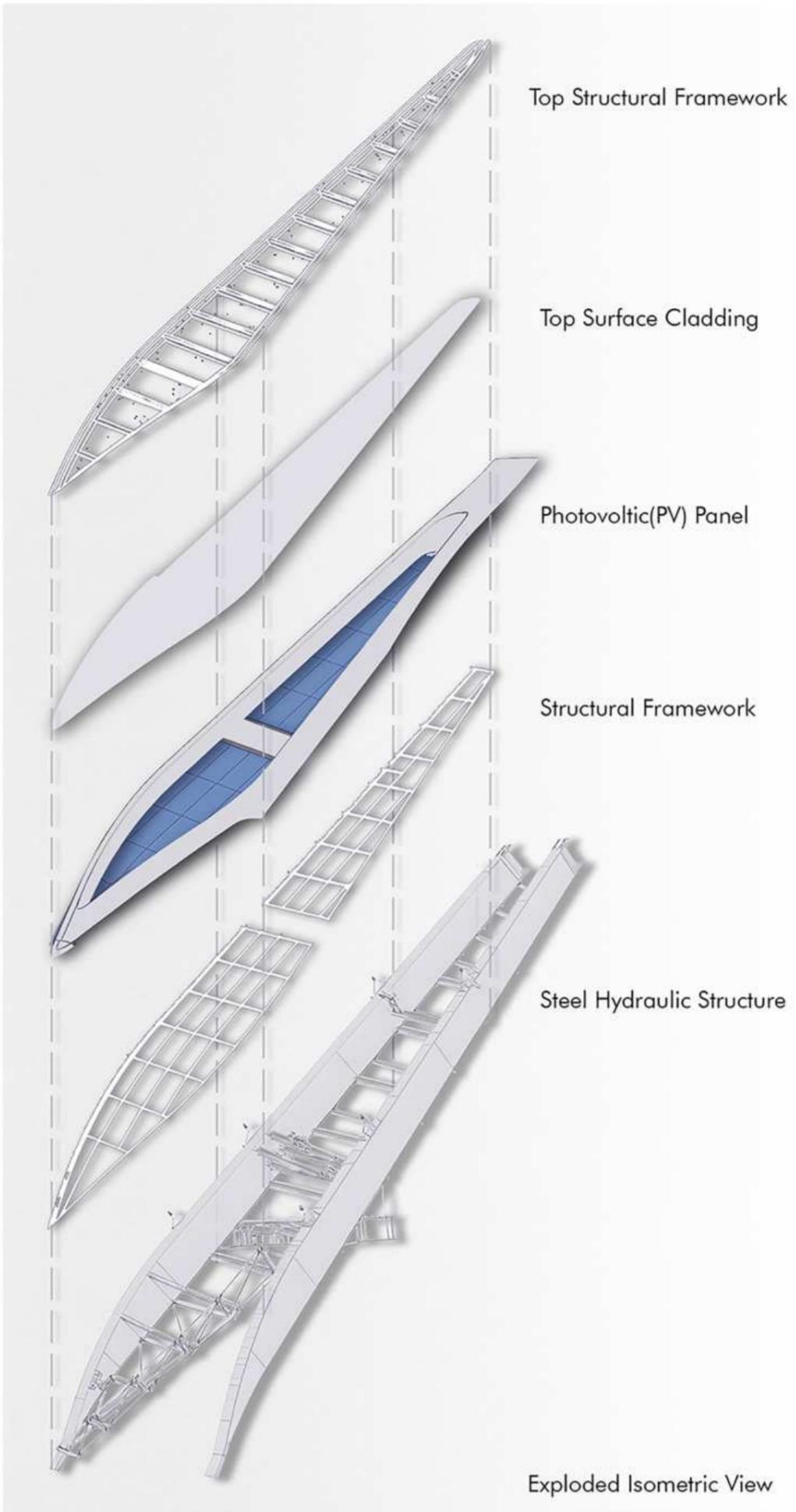


Source : ArchDaily

These assemblies coming beneath the PV panel System provide a robust foundation for the PV panels. They ensure precise alignment and stability, optimizing the efficiency of solar energy capture.



The above images illustrate the iterative process of communication and coordination among various consultancies. This process aims to identify and address errors, rectify omissions, and incorporate changes.



SHATAYU

Residential Plotting

Design Firm - Andblack Design Studio
Project Typology - Residential
Location - Ahmedabad, India
Area- 93000 sqmt.

Shatayu is a large-scale residential development spreaded over 90,000 sq.mt inspired by the concept of forest living. Employing the Japanese Miyawaki technique, the project fosters a dense, self-sustaining arboreal landscape experience.

Three distinct villa typologies cater to varying plot sizes, design preferences, and budgetary considerations. The communal spaces are meticulously designed to mirror this forested aesthetic, with expansive, lush landscapes that blur the line between built form and nature.



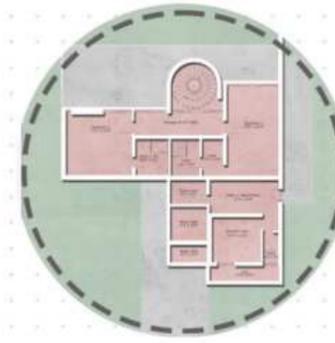
Site Planning Layout

The site planning of Shatayu integrates architecture with nature, featuring organic layouts that follow the natural topography. Green corridors and strategic orientations ensure seamless transitions between spaces, enhancing connectivity while preserving privacy and fostering tranquility.

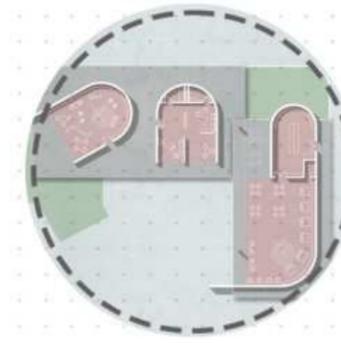
Villas are designed and arranged thoughtfully to enhance natural vistas throughout

The site office, library, and bistro embody the disintegrating capsule concept.

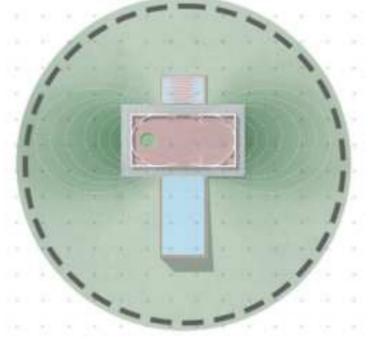
The meditation center, encased in mounds, immerses users in nature.



01



02



03



Legend

- 1. Site Office
- 2. Meditation Center
- 3. Library
- 4. Cafe
- 5. Parking
- 6. Vehicular Entrance
- 7. Pedestrian Entrance
- 8. Villa 1
- 9. Villa 2
- 10. Villa 3
- 11. Common Area

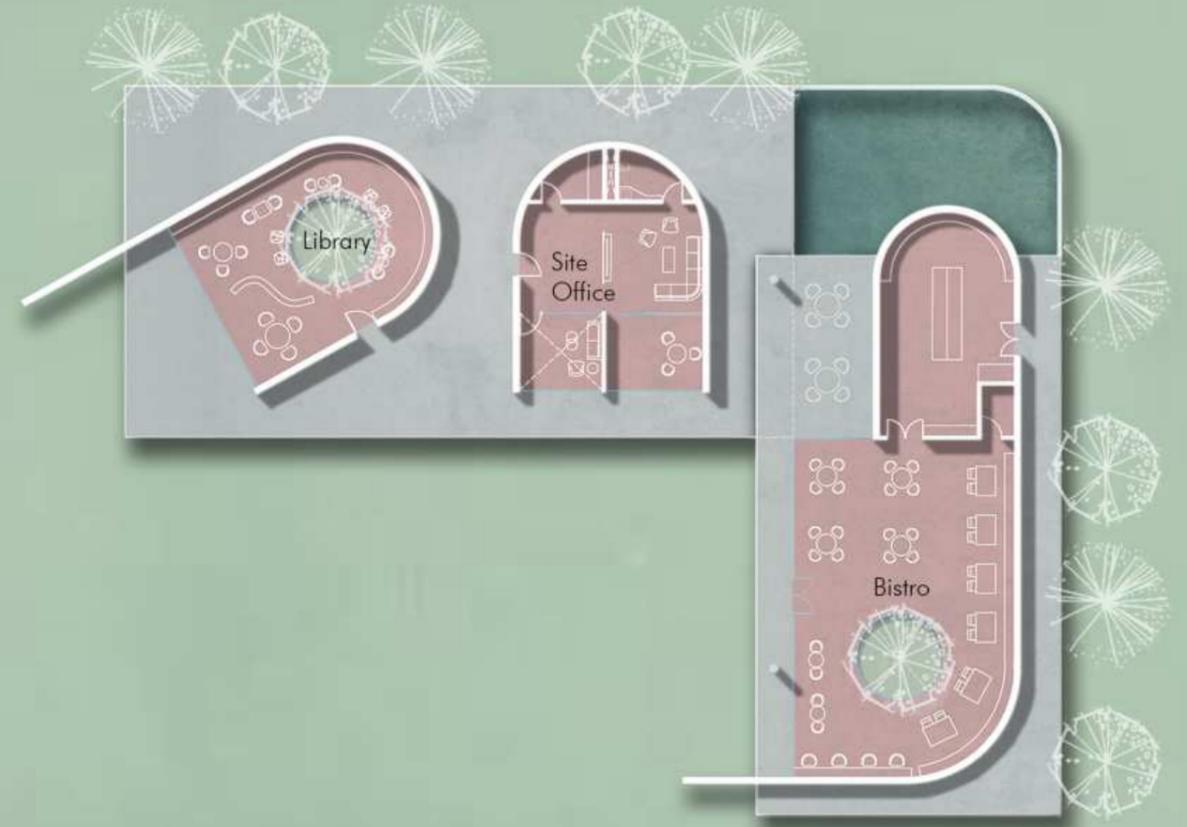
— Site Office, Library & Bistro



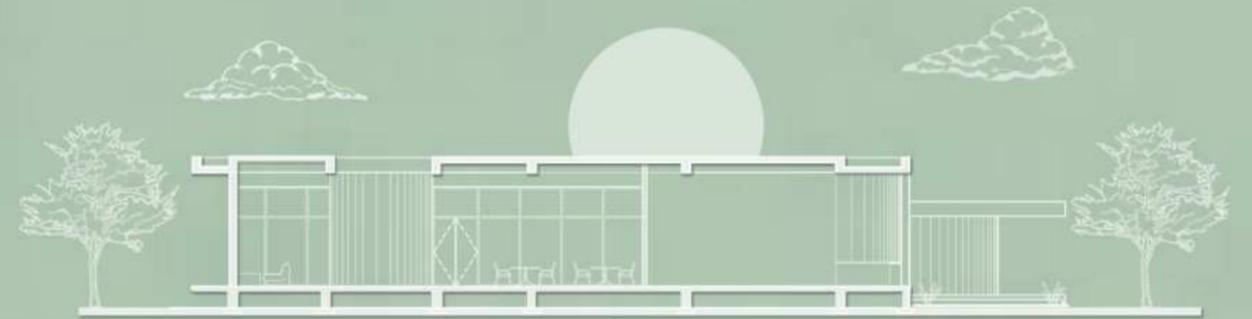
Roof with Cutouts

Deformed Capsule

Base at levels



Plan



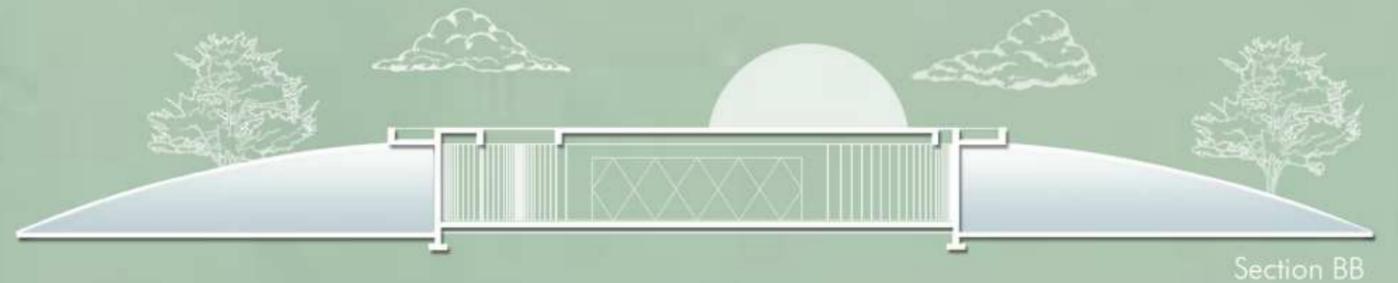
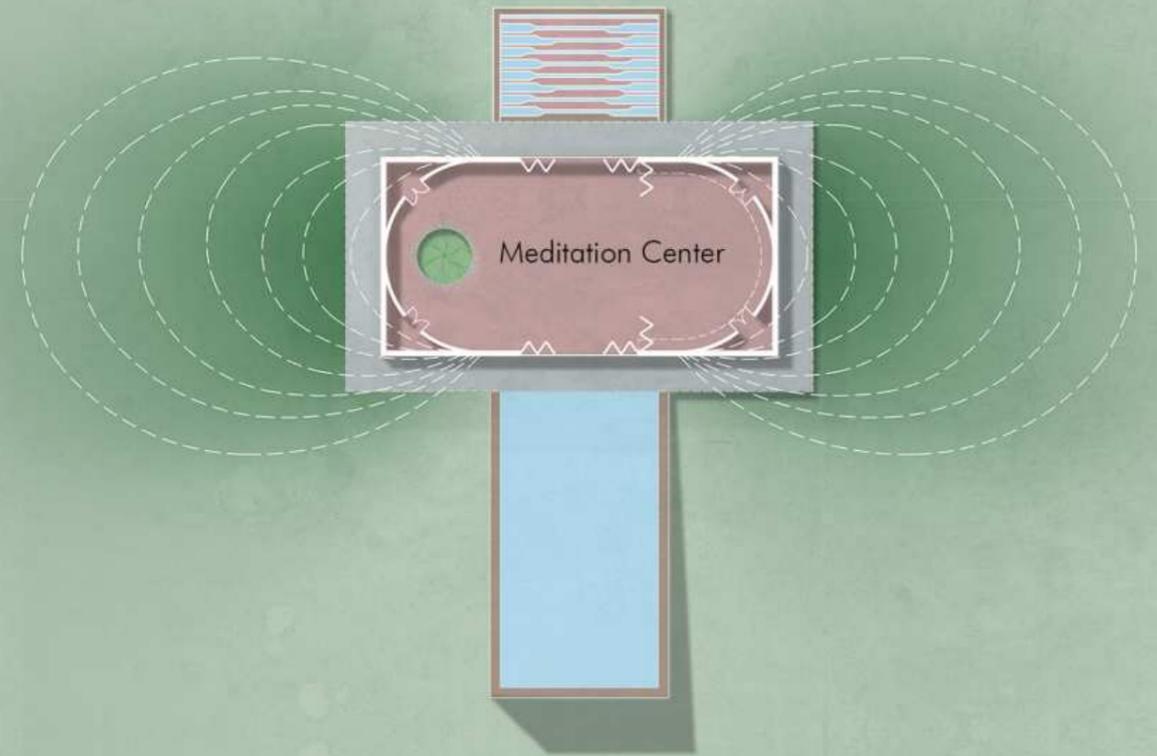
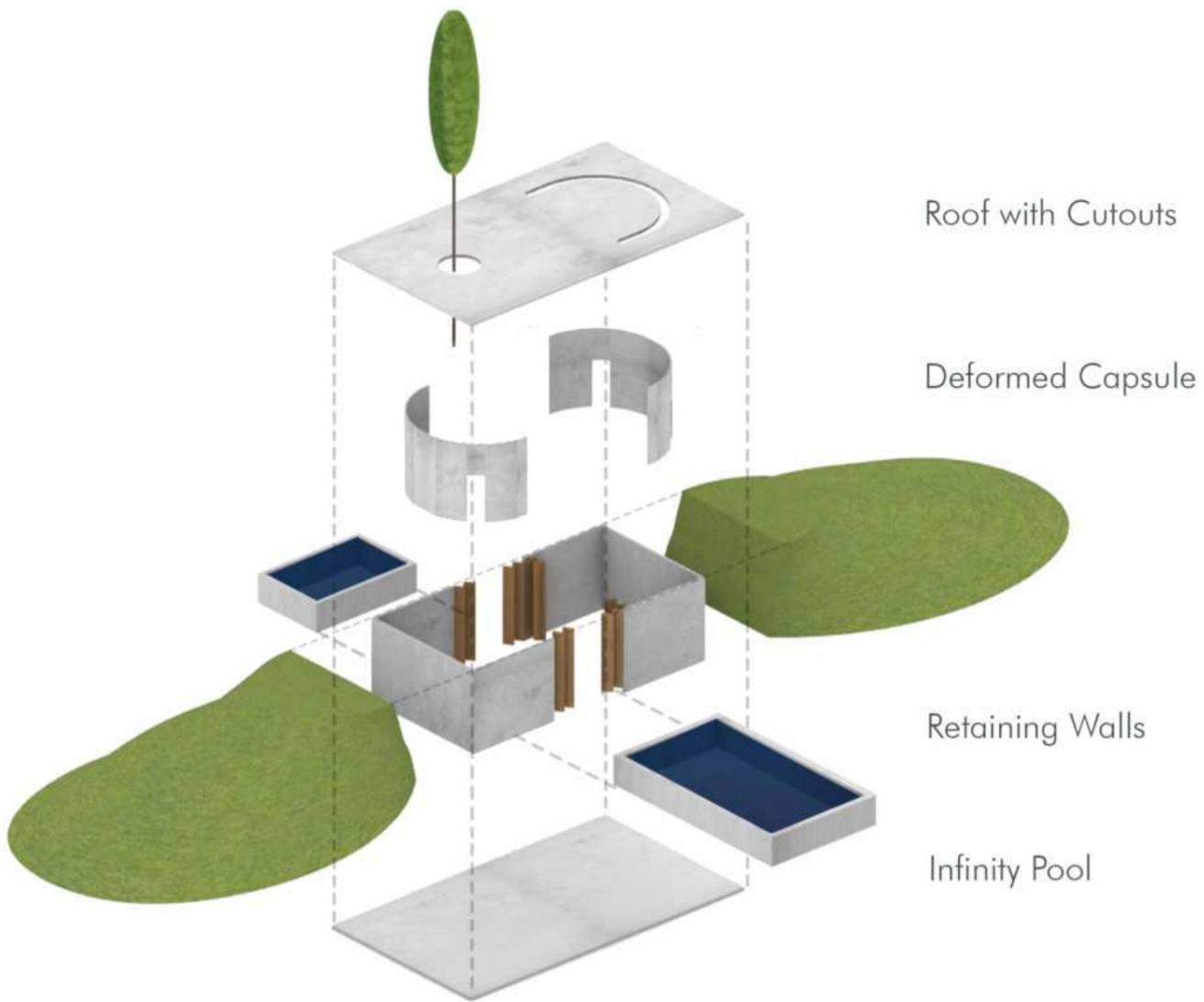
Section AA



Section BB

The design deforms a capsule shape, transforming it into three distinct components—site office, library, and bistro—seamlessly blending with nature to create harmonious, functional spaces

— Meditation Center



The meditation center, encapsulated within mounds, preserves the capsule form in plan, with designed mounds and an infinity pool, enhancing the immersive nature experience

— Villas

Three villa designs, tailored to varying plot sizes, feature exposed RCC, integrating a feature wall, swimming pool, mounds, and dense trees, creating an immersive forest living



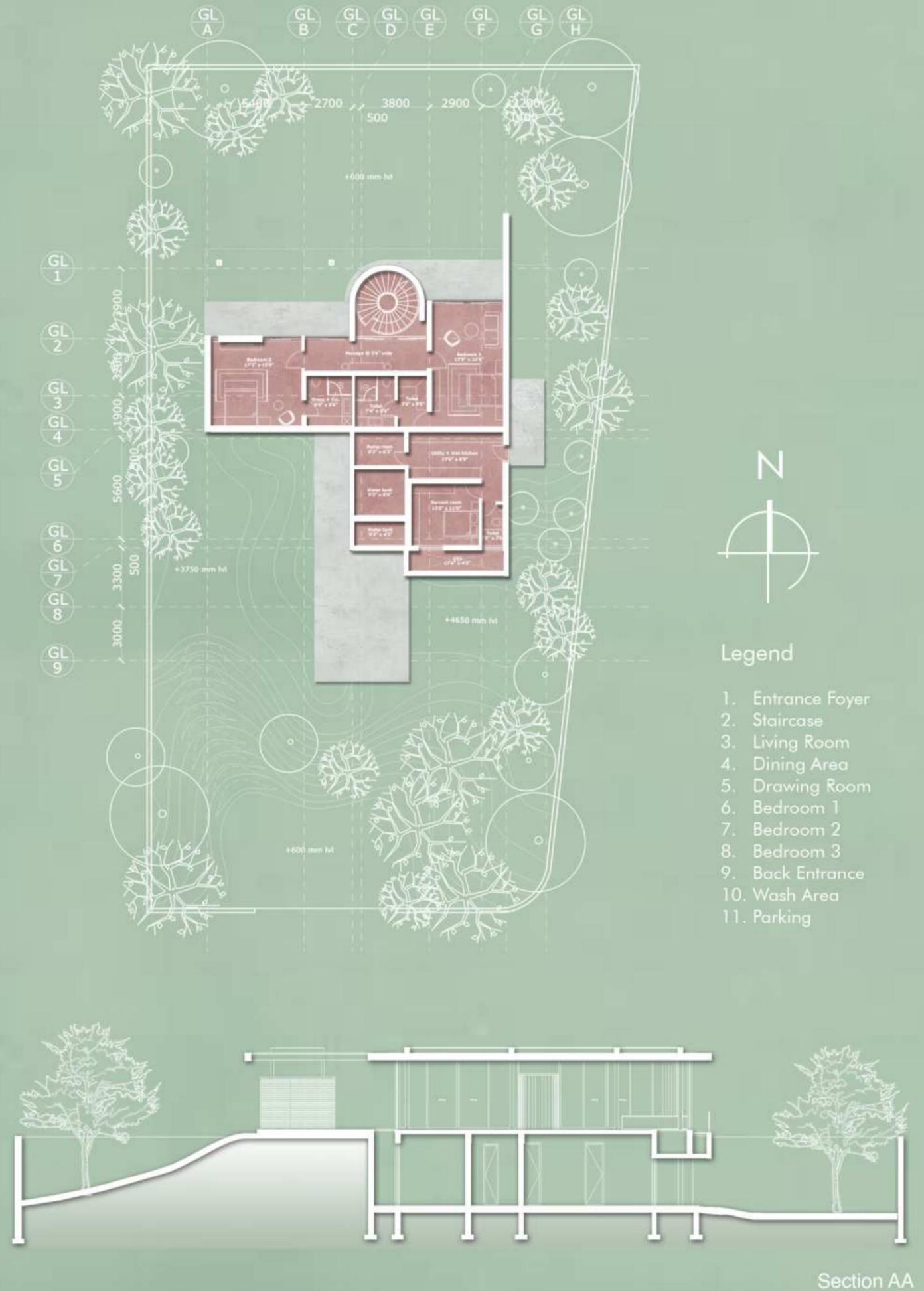
Villa Design 1



Villa Design 2



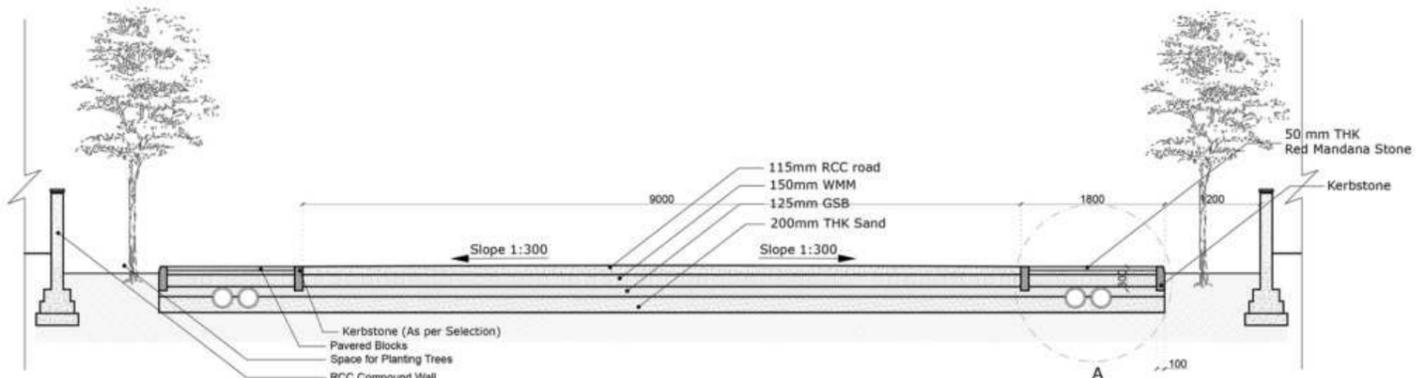
Villa Design 3



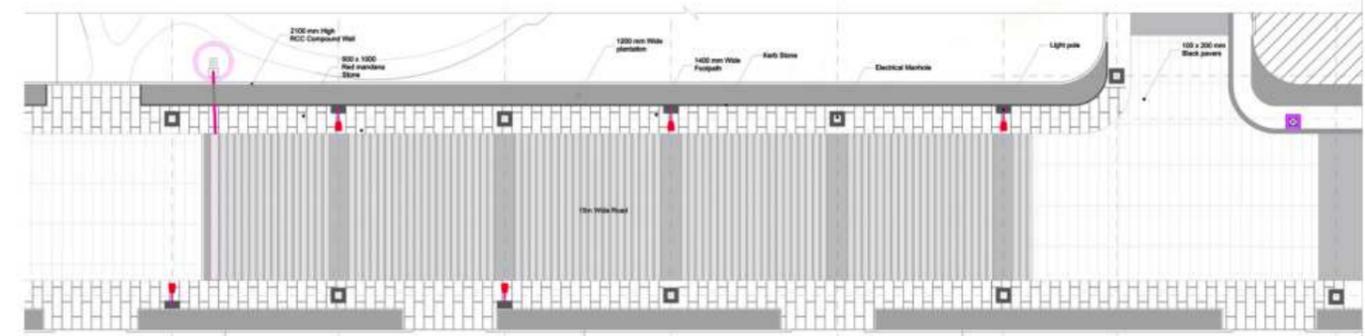
— Working Drawings

The Shatayu site layout working drawings encapsulate spatial zoning, circulation flows, landscape integration, and infrastructural cores, facilitating precise execution and seamless connectivity within the overall site design

The 15M road detail includes lighting, traffic calming elements, stormwater drainage, utility conduits, and material specifications in both plan and section, ensuring efficient, safe, and sustainable road infrastructure



15 M Wide Road Detail Section



15 M Wide Road Details - Plan

SURAT NATIONAL BANK

Commercial Design

Design Firm - Andblack Design Studio

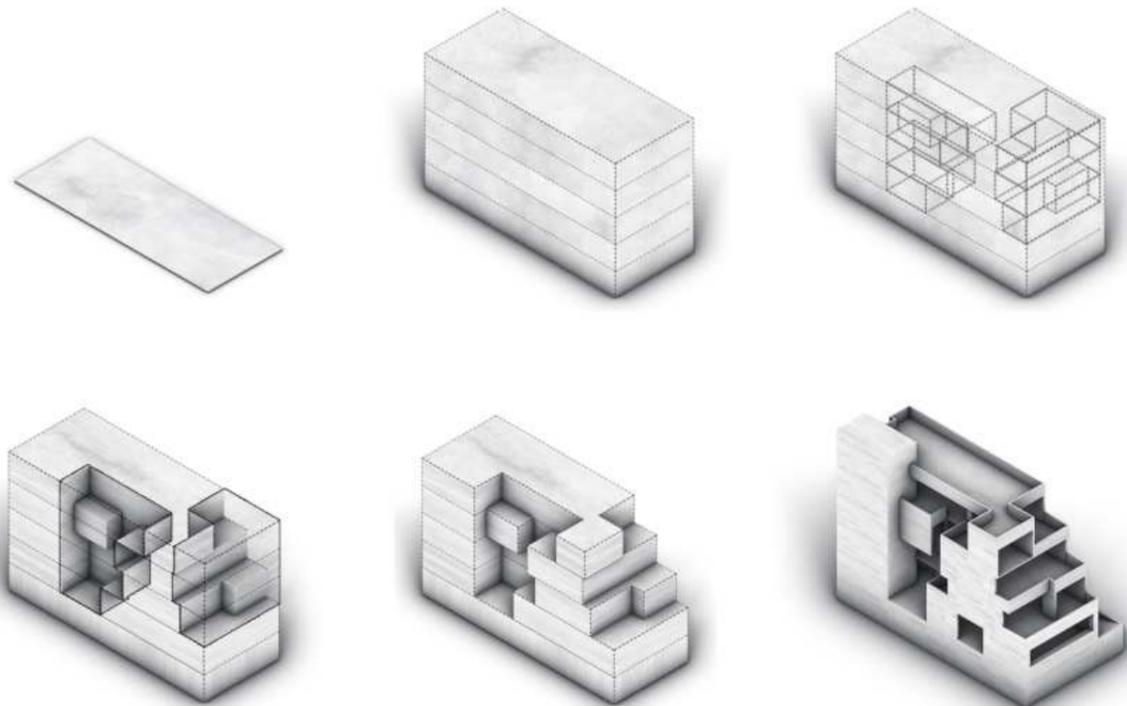
Project Typology - Commercial

Location - Surat, India

Area- 615 sqmt.

Surat National Bank is an ambitious commercial design project encompassing a five-story structure, complete with a basement level, tailored to meet the demands of modern banking and commercial activities. This multi-level building is designed to maximize both functional efficiency and aesthetic appeal.

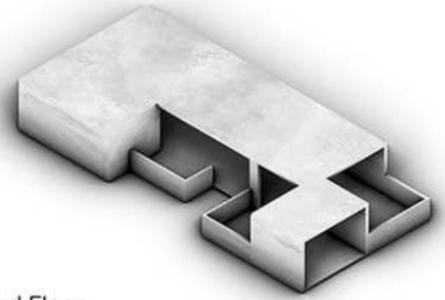
The architectural vision centers on the concept of concrete boxes, meticulously stacked and juxtaposed, creating a dynamic interplay within the vertical volume. This design strategy emphasizes spatial complexity and visual interest, enhancing the building's architectural expression.



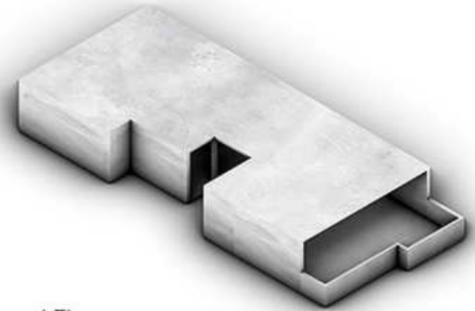
Volumetric Development



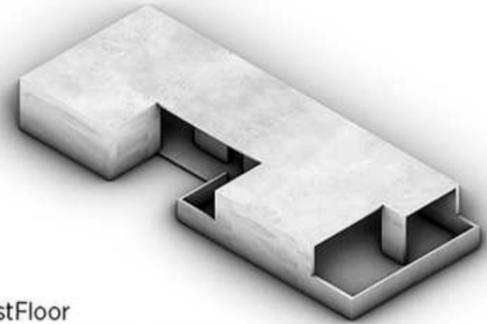
Volumetric Massing



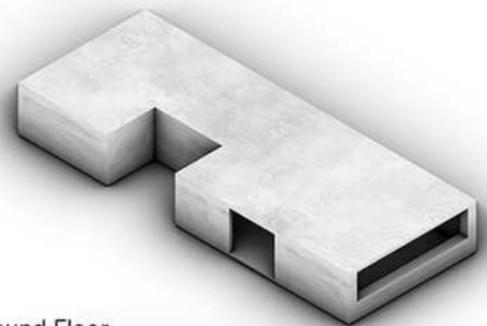
Third Floor



Second Floor



First Floor



Ground Floor

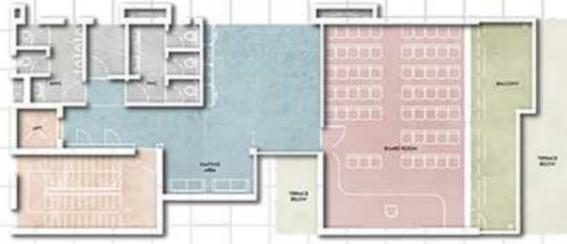


Basement Floor

Floor Plans



Third Floor



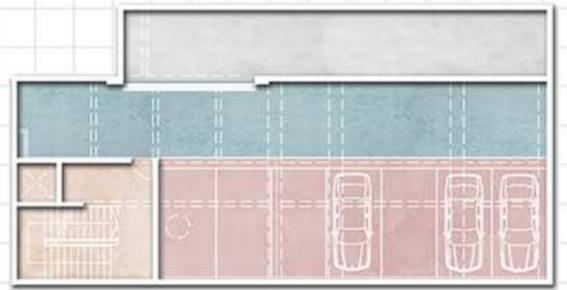
Second Floor



First Floor



Ground Floor



Basement Level

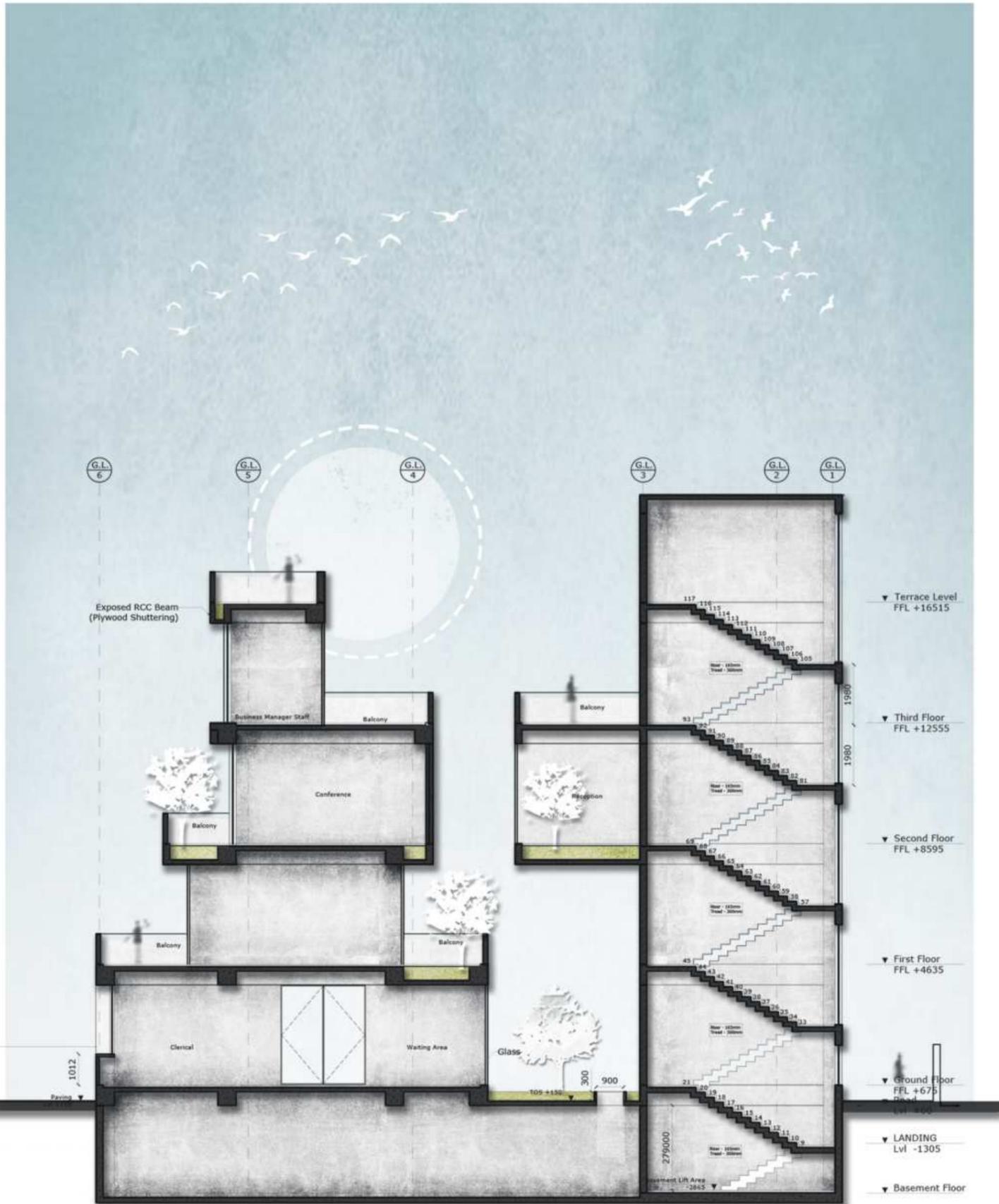
This design strategy emphasizes spatial complexity and visual interest, with the interplay of concrete volumes creating rhythm and movement for a dynamic architectural experience.



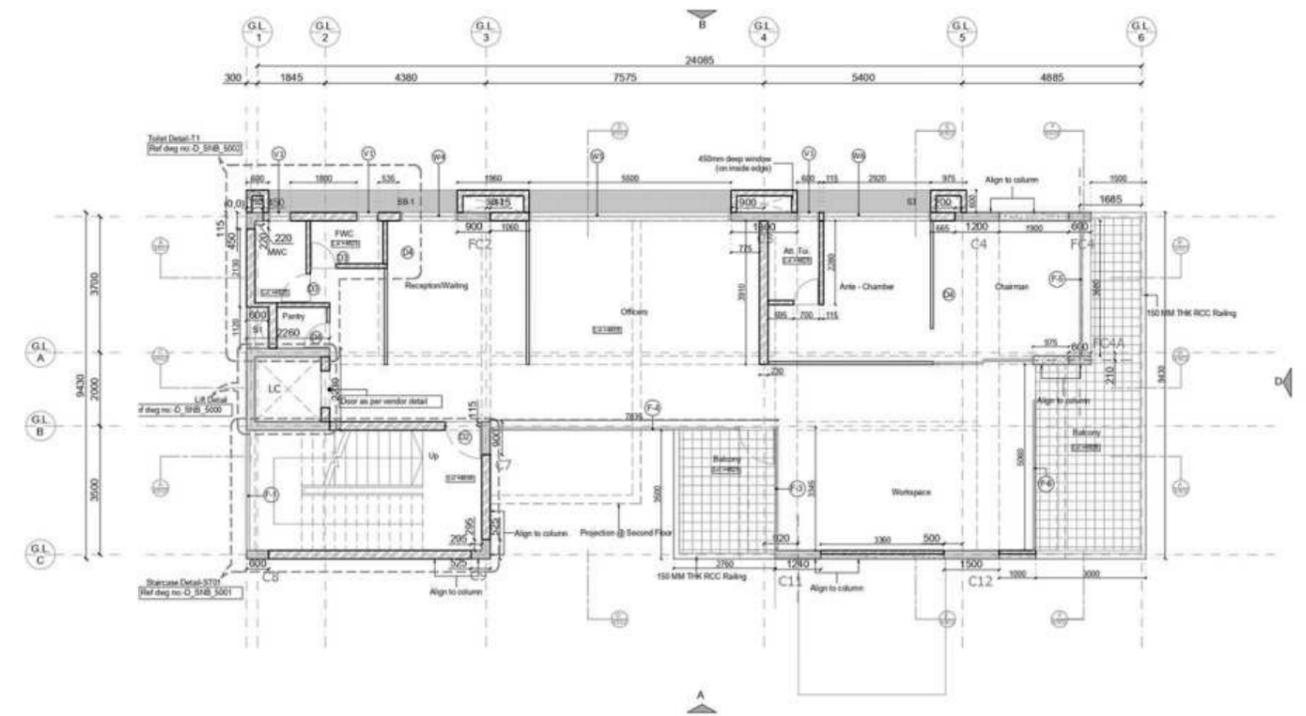
Site Plan

The sections are meticulously designed with cantilevered balconies overlooking the terraces of other floors, fostering an interactive and dynamic spatial environment, enhancing connectivity, and visual engagement throughout the structure.

The careful positioning of these elements creates a cohesive yet varied facade, contributing to the building's distinctive identity. The design not only addresses functional requirements but also elevates the aesthetic quality of the urban landscape.



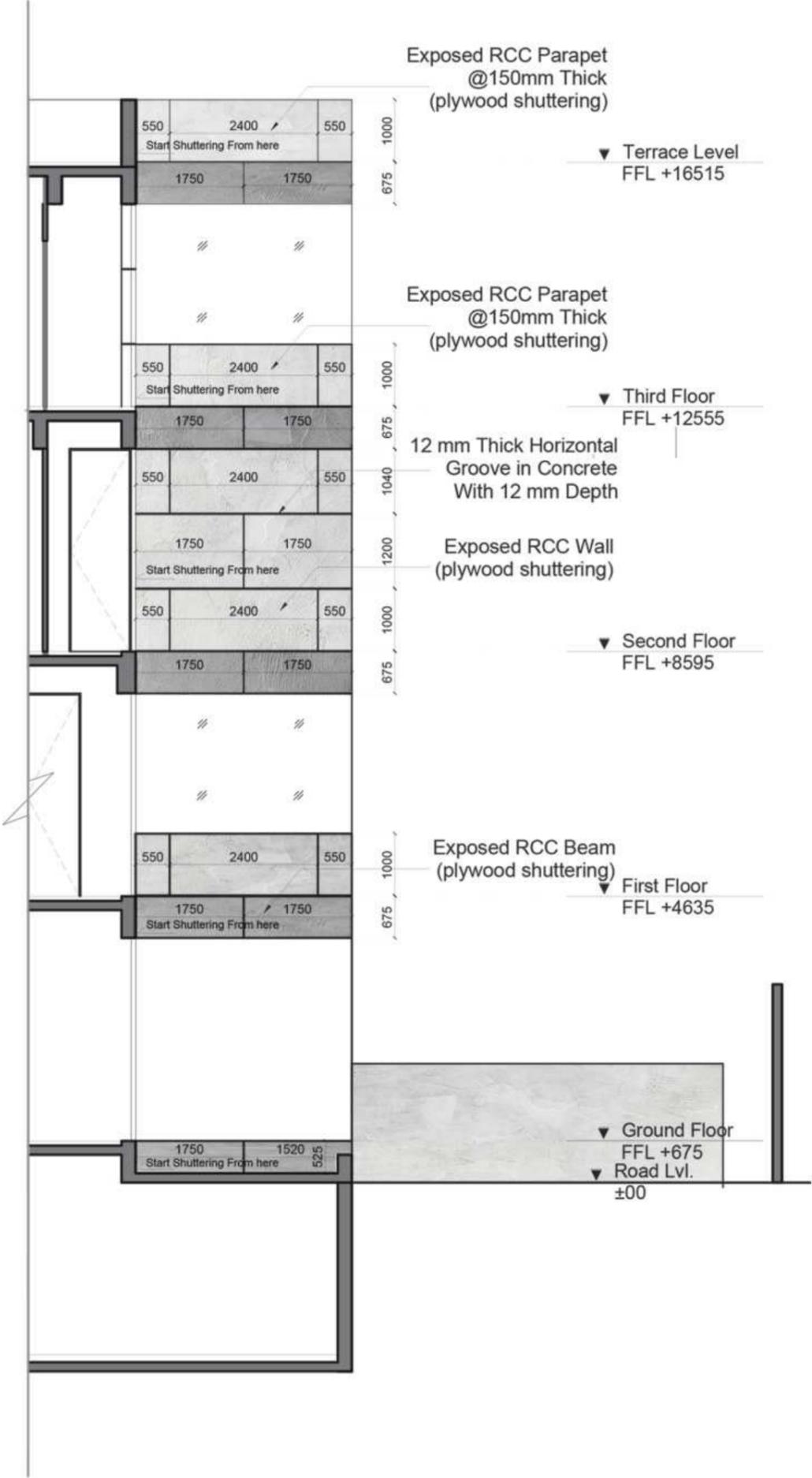
Site Section



The building is designed with terraced setbacks, intricately carving spaces through the interplay of positive and negative massing, while satisfying FSI requirements and adhering to all building regulations.



Construction Site Images



Wall Section

Views

AURANGABAD SCHOOL

Institutional Design

Design Firm - Andblack Design Studio

Project Typology - Institution

Location - Aurangabad, India

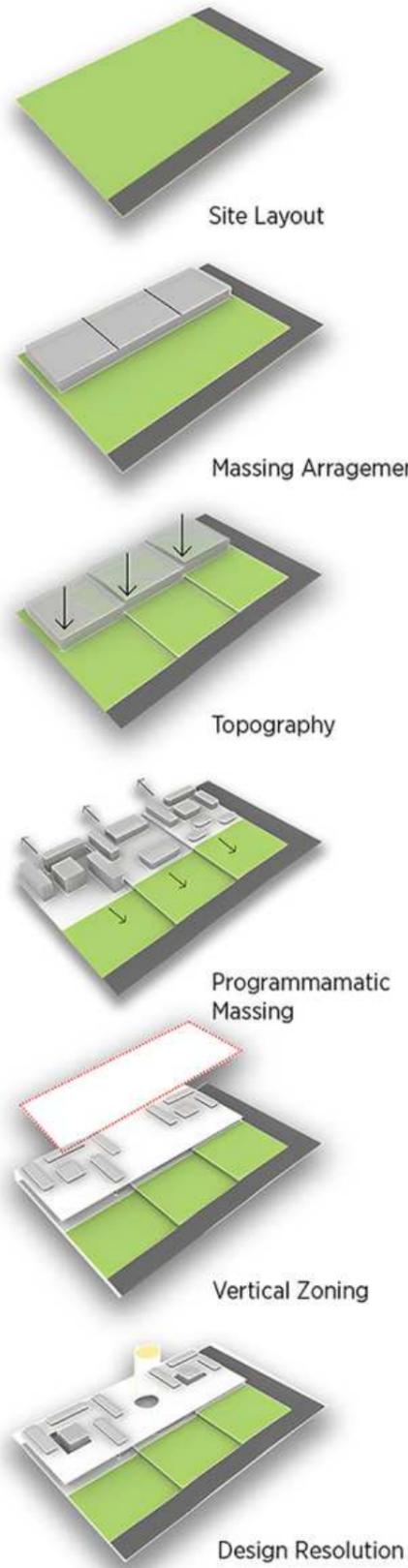
Area- 37000 sqmt.

The Gurukul School Aurangabad project envisions an expansive institutional campus, accommodating students from pre-primary through 12th grade, complemented by comprehensive hostel facilities and a sports complex, all set within a vast 37,000 sqm of undulating terrain.

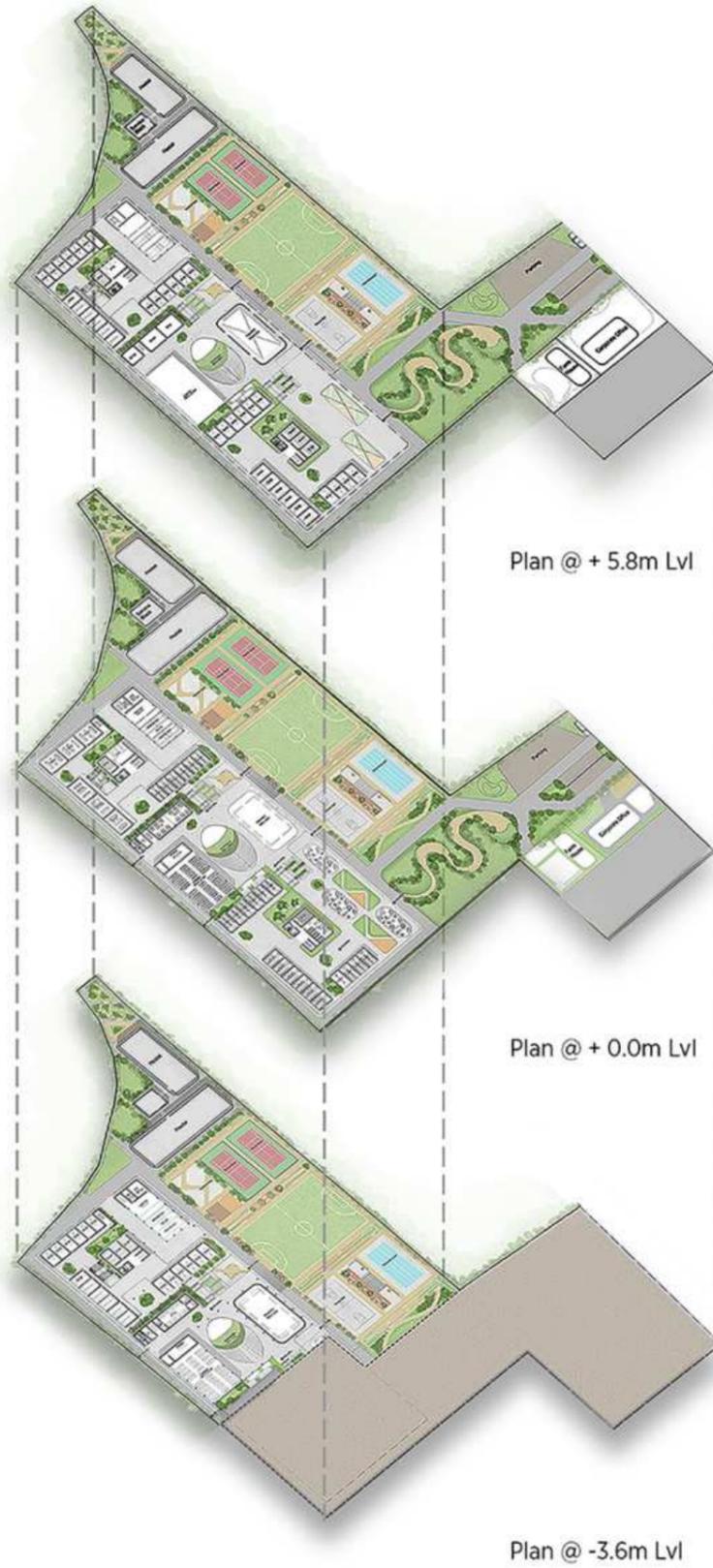
The design mandate emphasizes the creation of multiple, interconnected horizontal space corridors that seamlessly integrate with the site's natural topography and surrounding hills.



Conceptual Process



Floor Plates



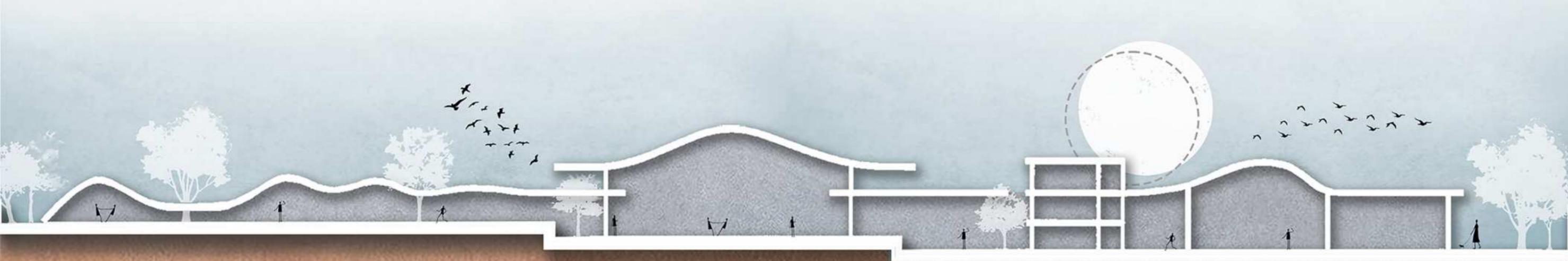
The design mandate focuses on creating interconnected horizontal corridors that blend with the site's natural topography and surrounding hills, aiming to craft an immersive architectural experience where the built environment harmoniously merges with the landscape.

It offers a dynamic interplay between structured educational spaces and the organic contours of the site. The design seeks to evoke a sense of entering and being enveloped by the landscape, fostering a unique and engaging educational environment.



To ensure adequate natural light and ventilation throughout the expansive project, horizontal corridors have been designed with strategically placed cutouts, emphasizing careful consideration of every nook and cranny of the massing and volume to enhance the spatial experience.

The core design concept aims to leverage the natural topography by organizing the project into three distinct levels. The programmatic functions are orchestrated to be encompassed within a unified parametric roof that traverses the entire massing, seamlessly enclosing all built forms.



Longitudinal Section

313-315W 53RD STREET

Residential Design

Design Firm - Arthur Chabon Architect

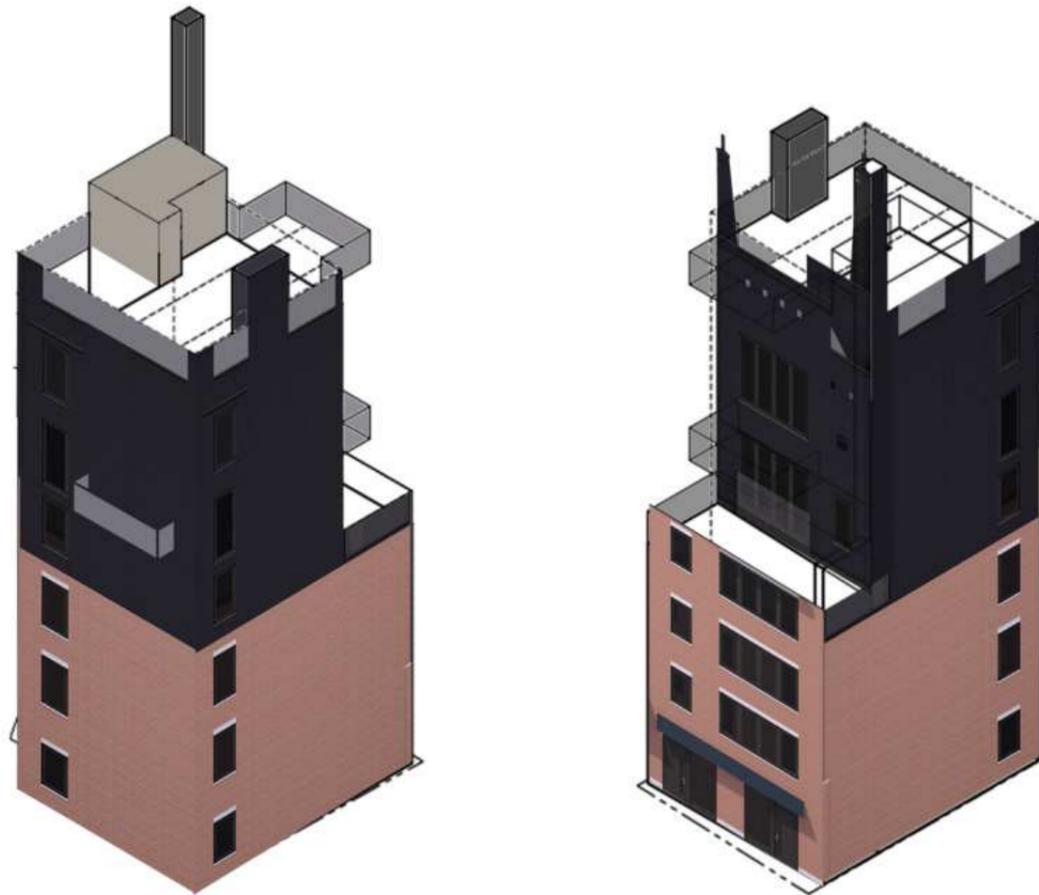
Project Typology - Residence

Location - New York City, United States

Area- 400 sqmt.

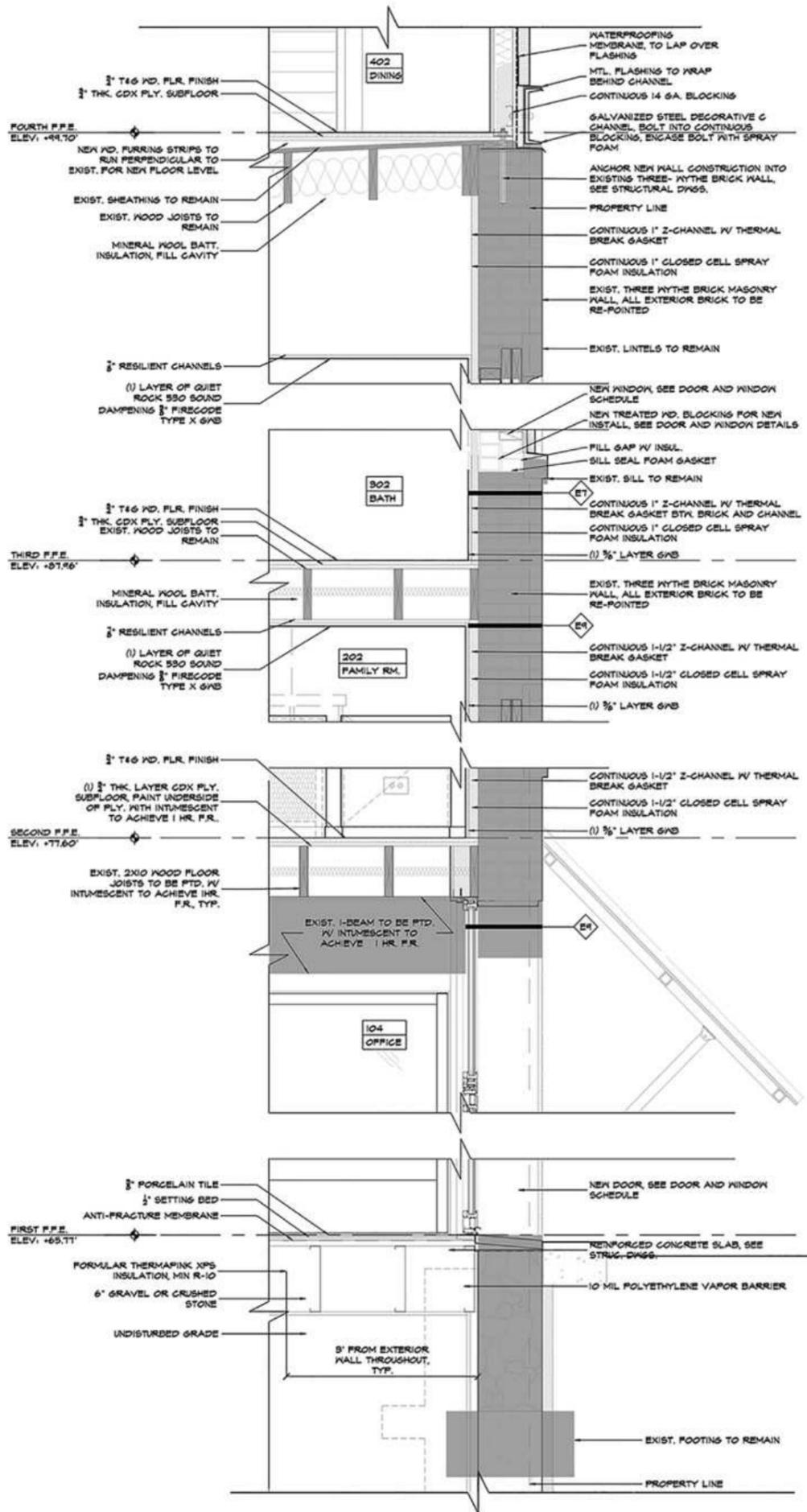
313-315W 53rd Street encompasses a pair of mixed-use developments, integrating residential and commercial spaces, situated in the vibrant core of Manhattan along 8th Avenue. These projects entail a meticulous combination of renovation and new construction.

Specifically, the developments include a five-story building with a basement, expanding from an existing three-story structure with the addition of two new stories, enhancing both functionality and aesthetic appeal.

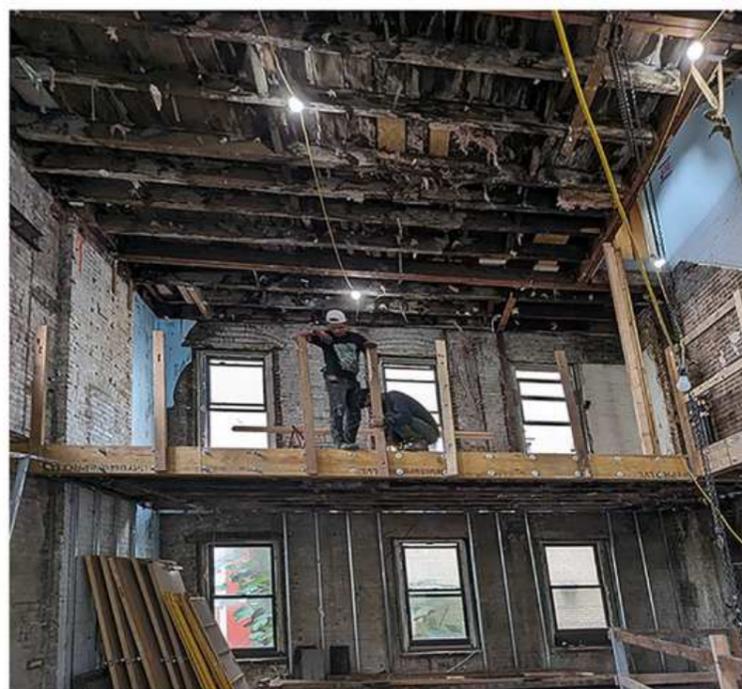


Views

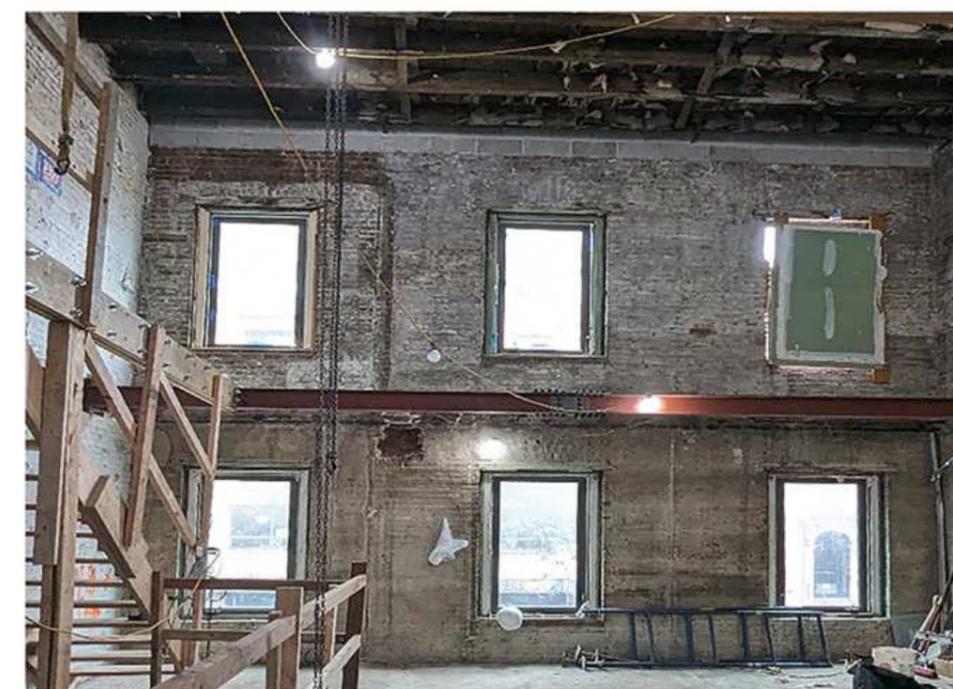
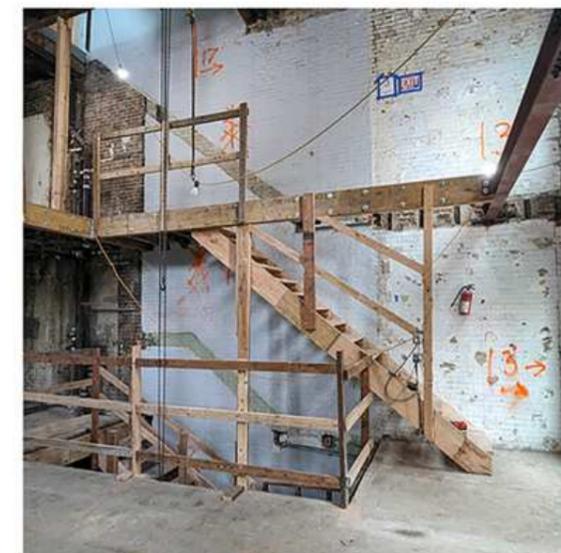




Wall Section



Site Images



ANAND NIKETAN SCHOOL

Institutional Design

Design Firm - Andblack Design Studio
Project Typology - Institution (Proposal)
Location - Ahmedabad, India
Area- 5000 sqmt.

Anand Niketan School is an innovative institutional campus design project encompassing all grades from pre-primary through fifth grade, covering an expansive area of 5,000 square meters.

The design concept centers on creating engaging and playful facades that resonate with young children while thoughtfully sculpting interactive spaces that communicate in their unique language and foster imaginative exploration.

The images presented above illustrate Design Option One, which features a subtle interplay of earthy materials and strategically placed openings, fostering a profound sense of connection with the natural environment.



The above presentation features Option Two, which is conceived to undulate gracefully like a breeze, adorned with vibrant rainbow hues that create a captivating interaction with the students.



RAJAMUNDRI SCHOOL

Institutional Design

Design Firm - Andblack Design Studio
Project Typology - Institution (Proposal)
Location - Andhrapradesh, India
Area- 12000 sqmt.

Rajamundri School is an institutional campus design project encompassing all grades from pre-primary to twelfth grade, featuring an indoor sports complex. This comprehensive facility consists of five stories, including a basement, and spans across a 12,000 square meters of land. The design prioritizes educational excellence while promoting physical well-being through its thoughtfully integrated spaces.

The primary design concept focused on creating cohesive and open spaces that embody a playful character, encouraging engagement among users. A central objective was to enhance public areas along the periphery of the site, allowing occupants to fully appreciate the stunning mountain views that beautifully surround the site.



Given the site-to-built ratio, the intricate design of both positive and negative spaces was accomplished through meticulous planning and thoughtful architectural strategies, facilitating a harmonious integration.



Additional cutouts were incorporated at various design points to increase natural light while introducing porosity to the solid volume, enhancing the overall aesthetic and spatial quality of the interior environment.



ANACHRONICISTIC RE-ENACTMENT

Musical Pods Design

*Computational Technologies Studio -
Informed Realism*

Prof. - Pablo Lorenzo Eiroa

Location - Lincoln Center of Performing Arts, NYC, USA.

The studio focuses on developing social and cultural problems through computational design thinking of specific site and addressing them through a techniques of Architectural representation by implementing, displacing, advancing and developing computer algorithms activating the notions of Informed realism.

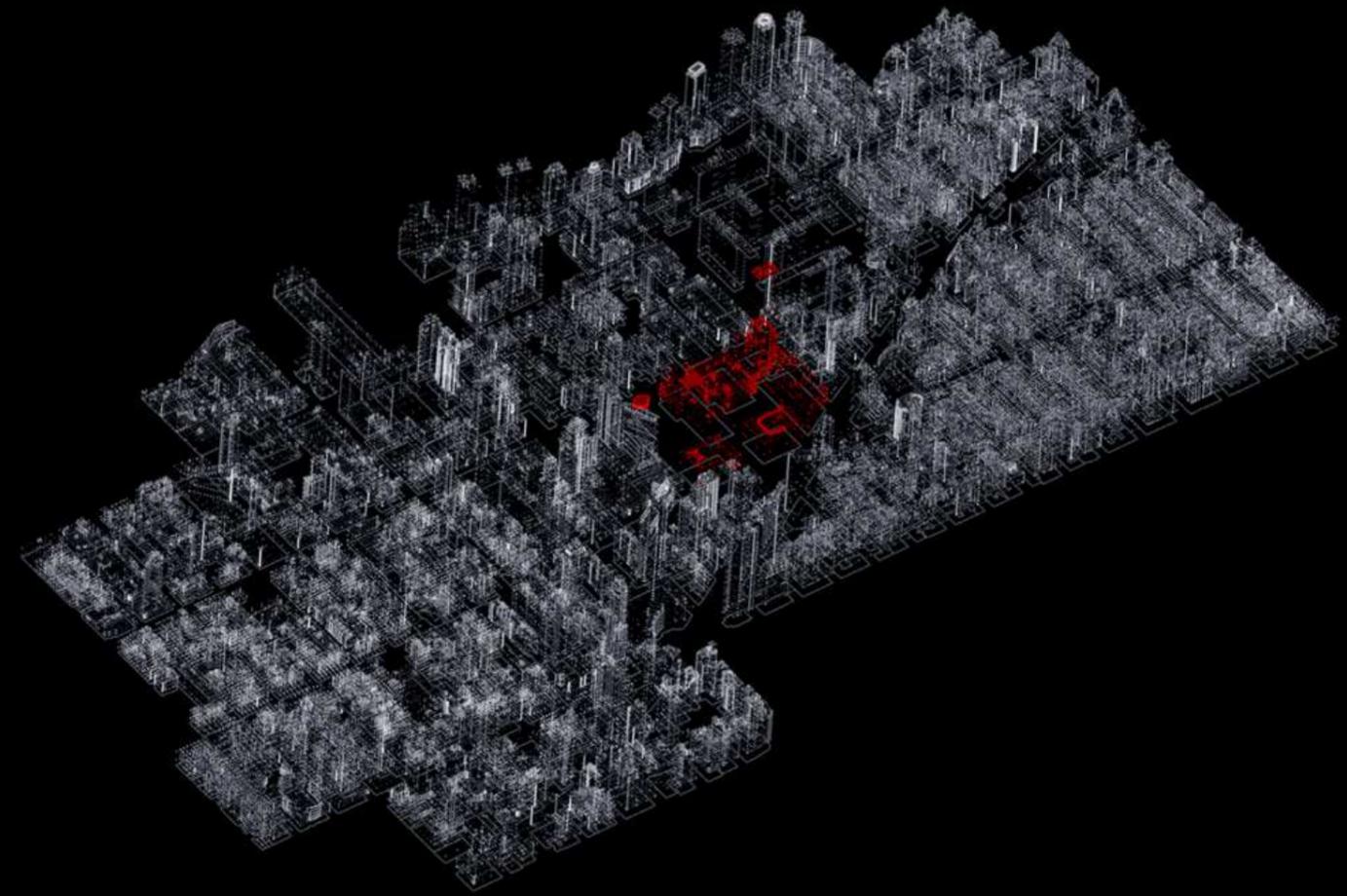
Anachronicistic Re-Enactment focuses on the re interpretation and integration of New York City's San Juan Hill's (Lincoln Center) rich musical Jazz history into the present day with a sense of timelessness by big data simulation, data representation and information systems creating an Informed reality.



Elevation West



Elevation East

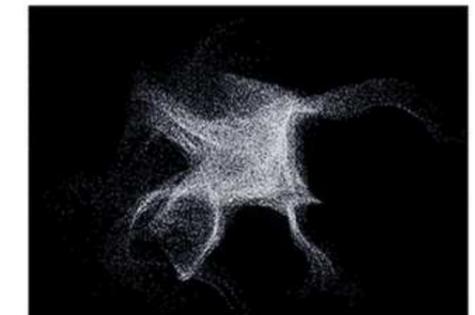
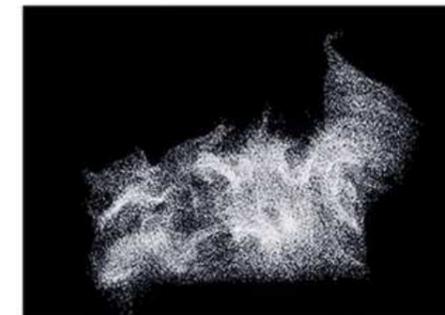
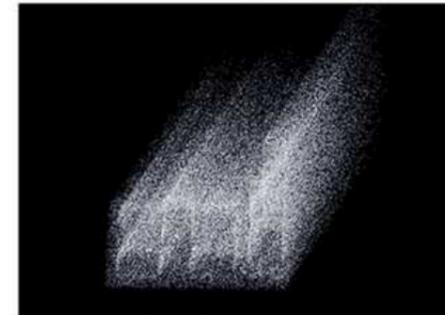
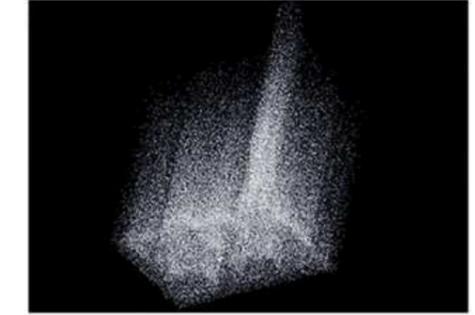
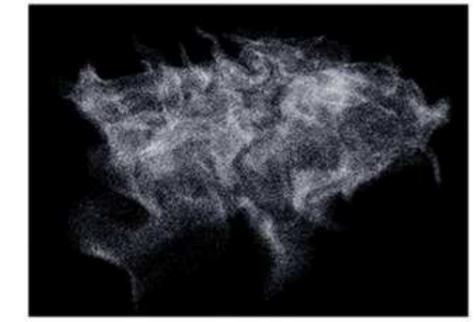
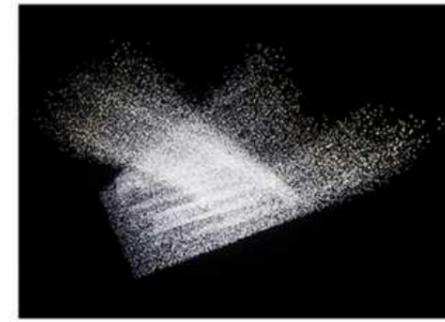


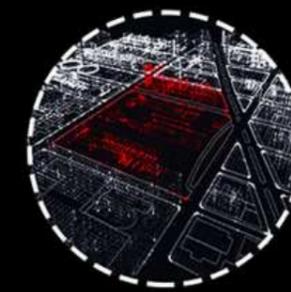
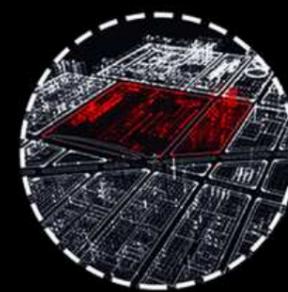
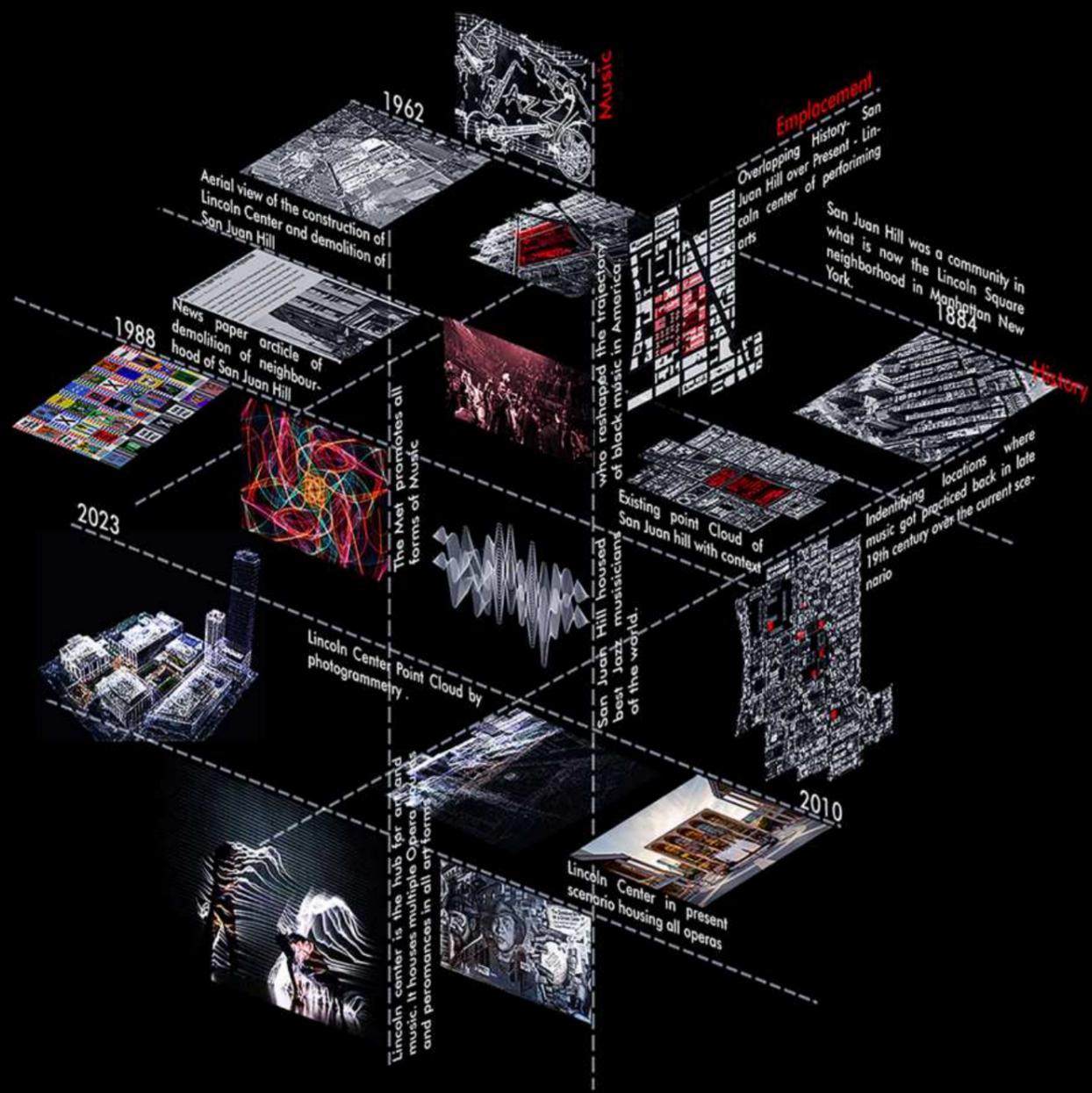
Site - Isometric



The latent conditions of the site, conventions, and ideas of spaces are surveyed, analyzed, and scanned, generating a virtual display of the site through point clouds, exploring new dimensions, patterns, and correlations.

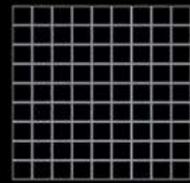
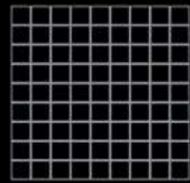
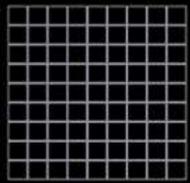
These point clouds are then displaced to generate various relationships, examining interactions, interpretations, structures, dynamics, configurations, and connections.



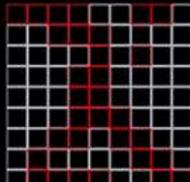
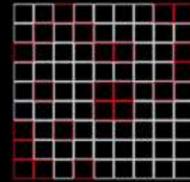
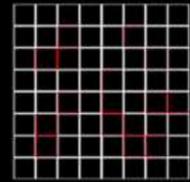


Space means **emplacement, distribution** and **connection** of entities, actions and ideas. The above 3-dimensional Graphic shows analysis of data gathered depending on its timeline characterized on three major parameters 1) Music, 2) History, 3) Emplacement.

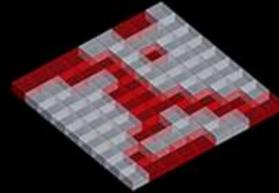
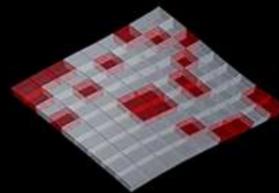
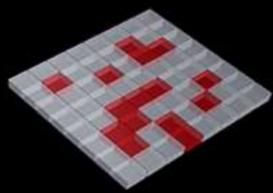
Space and Time are treated not as abstract dimensions but as features of lived experience of Sociality, of culture and of past. It says space and time should be examined from a cultural perspective.



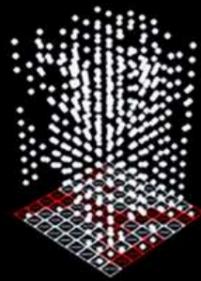
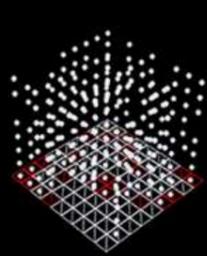
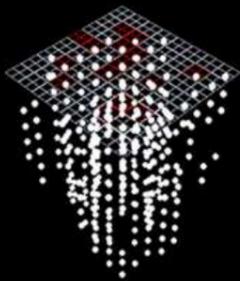
Dead & Live cells



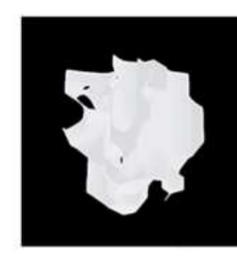
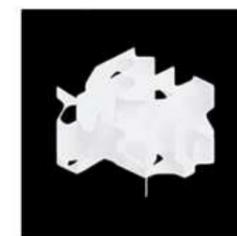
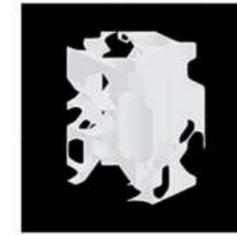
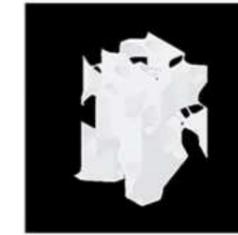
Cell Generation



Point cloud -
Marching cube's

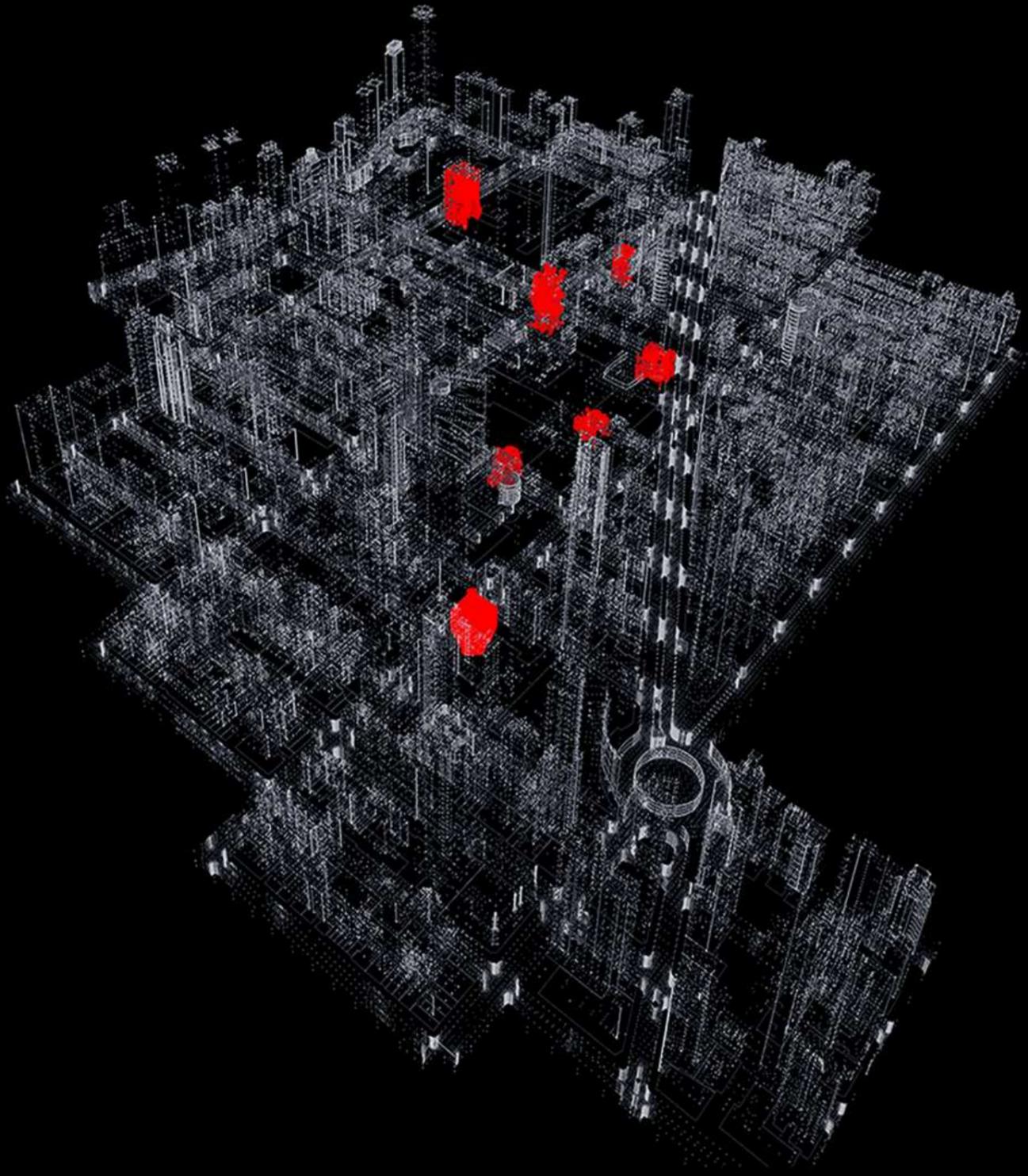


Form generation -
Cellular Automata

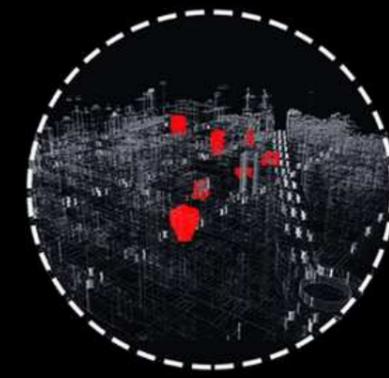


Giving the input parameters of emplacement, distribution and connection translating into 1) Height, 2)Time 3)Location 4) Placement of the past into Cellular Automata.

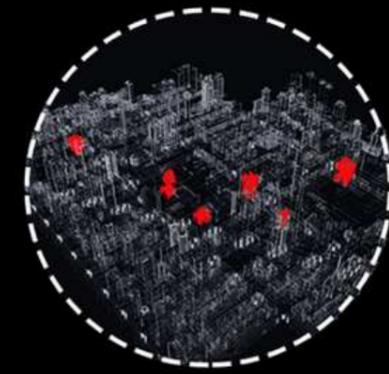
The Input acts as makes traces of the past as the index and AV Lens for the output. Above displayed are the generated results of the Cellular Automata - Game of Life.



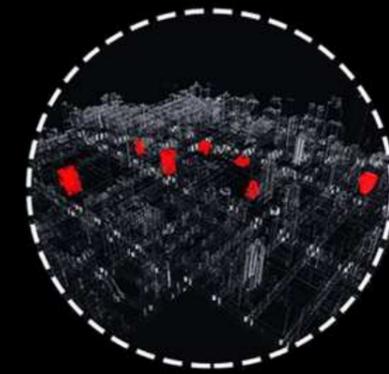
Elevation_West



Morphology



Density



Intensity

The abstract representation of the generated fusion of San Juan Hill and Lincoln center by manipulating the point clouds of the existing merging it with the past forms an timeless interaction.

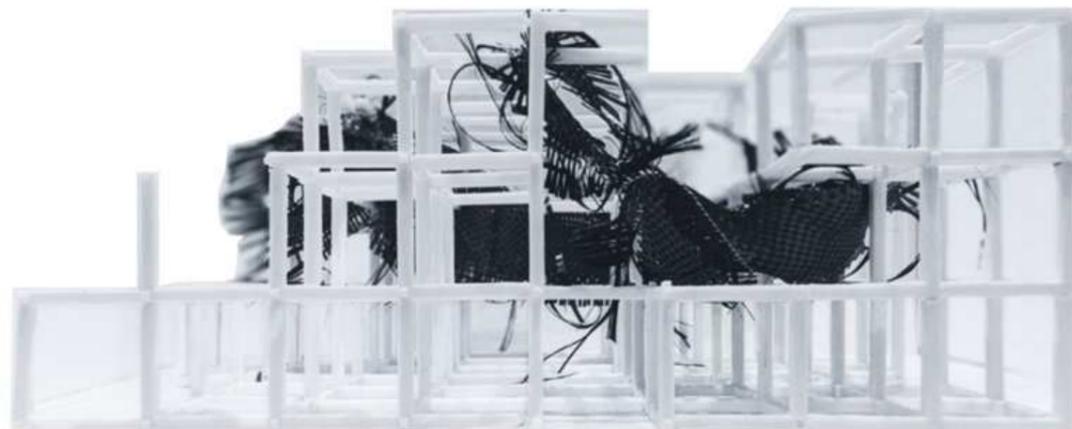
DISRUPTION OF IMMUTABLE

Artefact Design

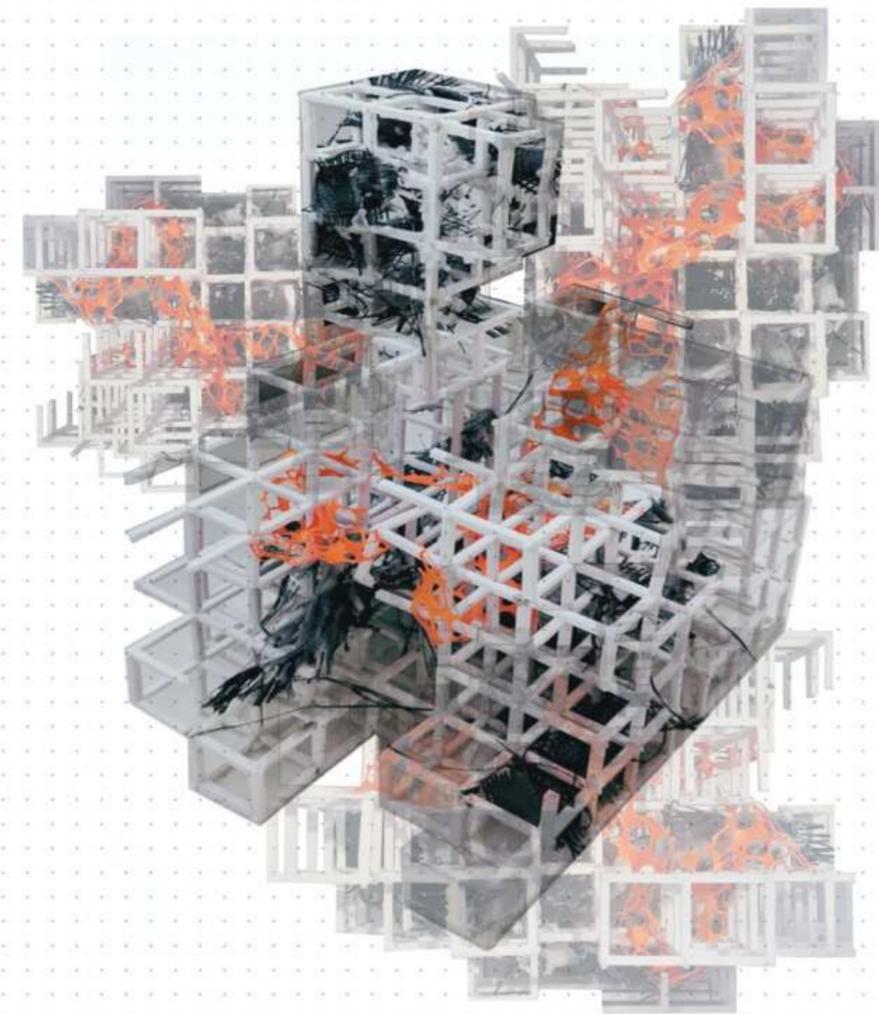
*Fabrication & Robotics Class -
Venice Biennale Exhibit
Prof - Fadhil Fadhil
Location - Venice, Italy*

The studio primarily concentrated on the rigorous investigation of advanced constructible materials, aiming to produce outcomes through the integration of cutting-edge computational technologies, encompassing both digital and physical dimensions.

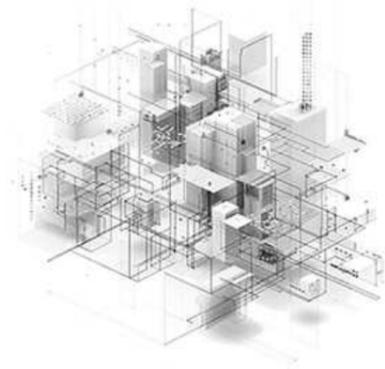
Extensive research was conducted developing algorithms for digital experimentation. These materials were meticulously fabricated using 3D printing technology and assembled by hand, demonstrating a sophisticated synthesis of computational design and material craftsmanship.



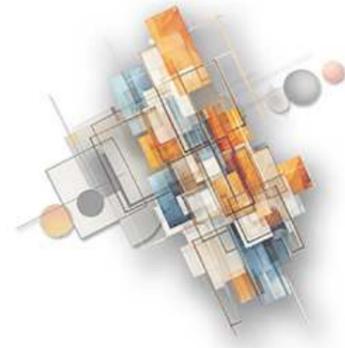
Elevation



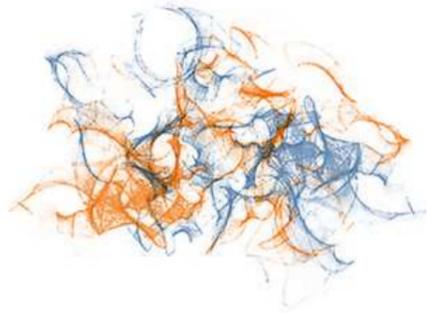
Model - Isometric



Computation



Fusion



Fluidity



Emergent

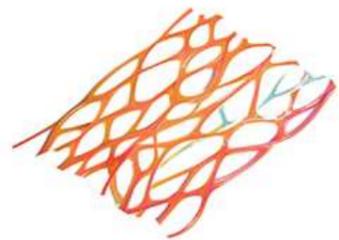
The artifact design concept was rooted in four core parameters—fusion, computation, emergence, and fluidity—each guiding the design process from its inception.



Carbon Fiber



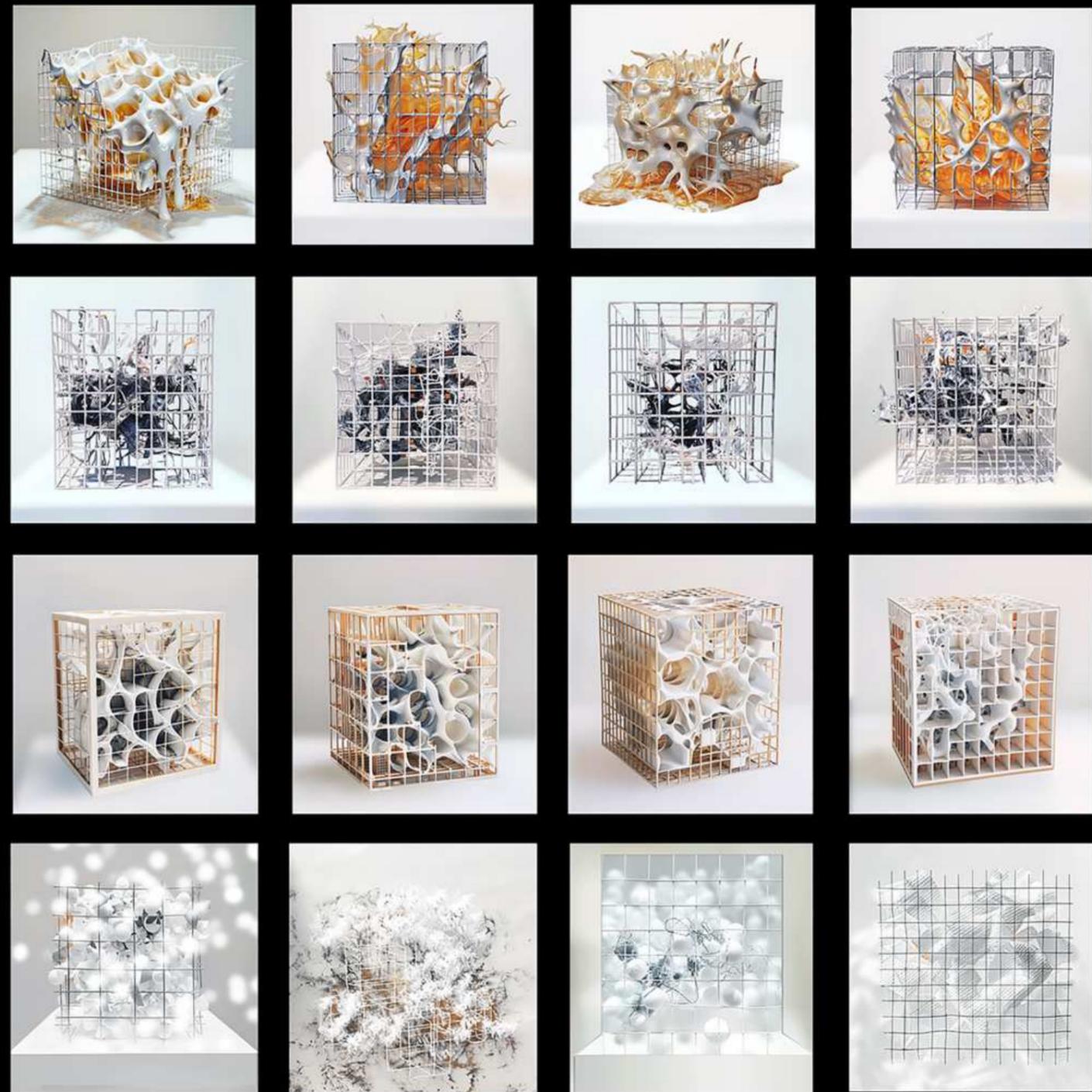
Wax



Flexi Fiber

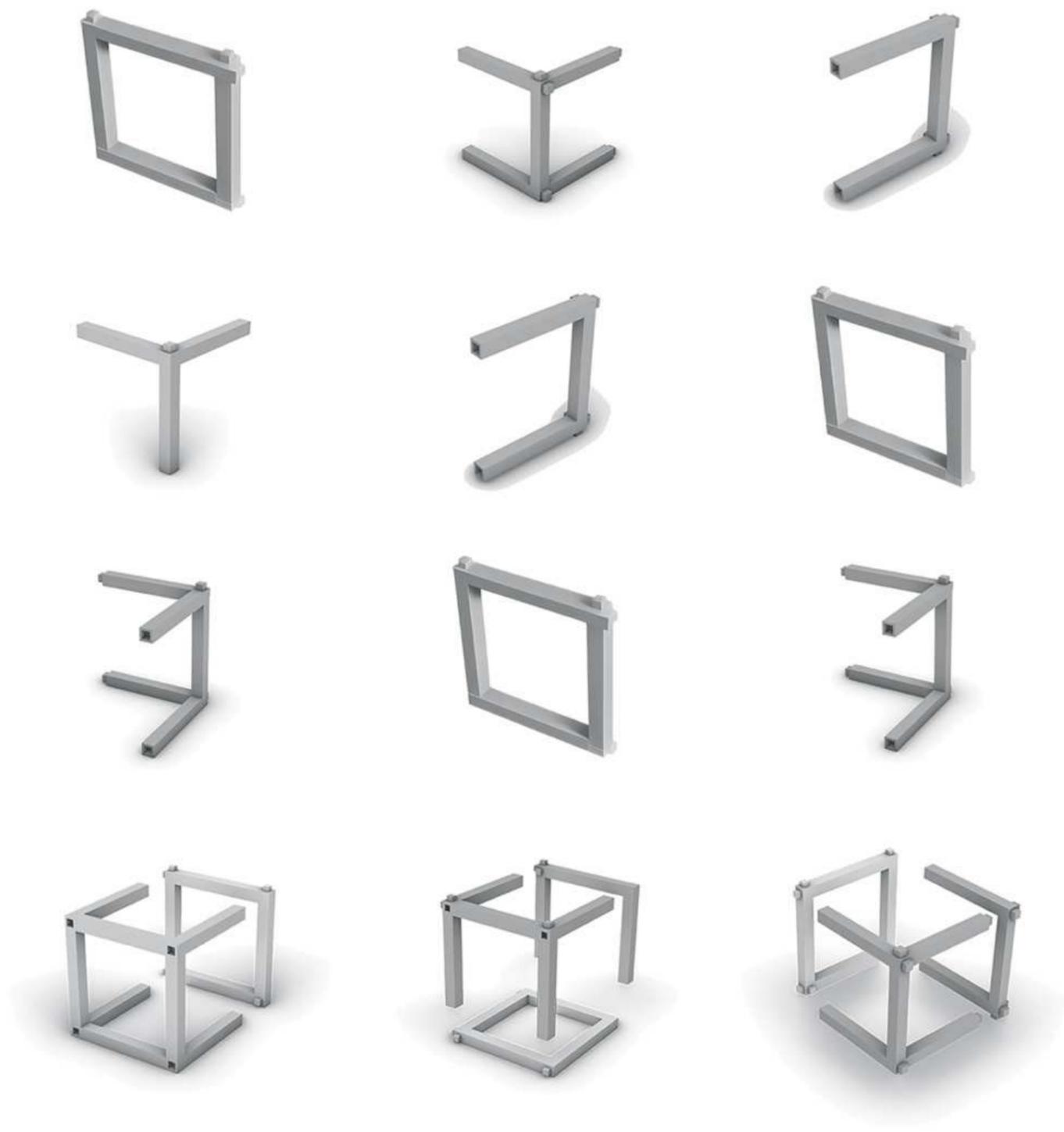


3d Printed Grids

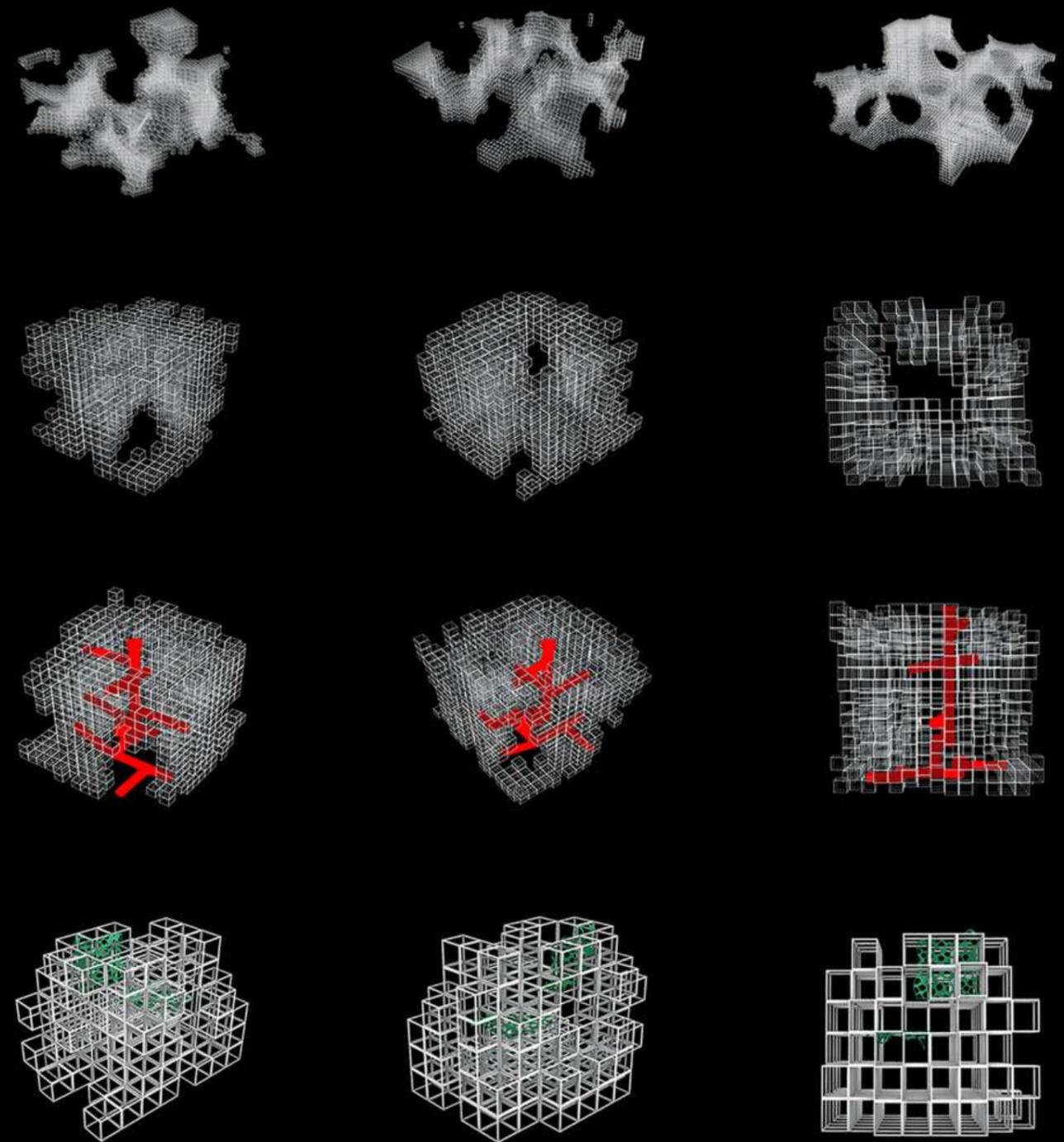


The investigative research and experimental processes engaged four materials—manufactured grids, carbon fiber, wax, and flexible fibers—emphasizing their structural integrity and aesthetic properties

The initial phase entailed the utilization of AI tools, integrating predefined parameters with selected materials. The outputs displayed above represent the results of this computational and material convergence.

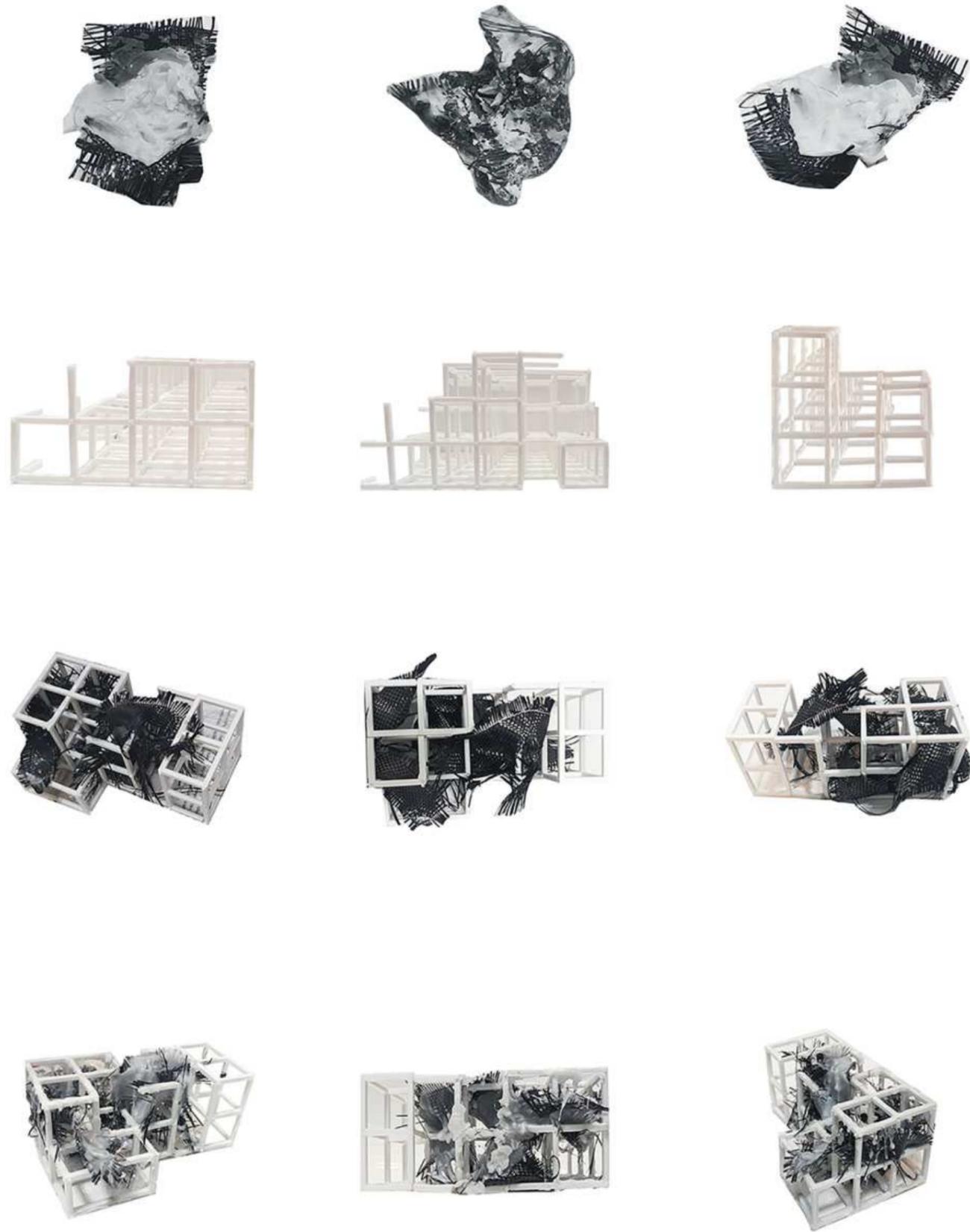


The grid was digitally deconstructed into numerous distinct segments, with a system intricately devised to facilitate manual assembly post-3D printing, allowing for various configurational possibilities.

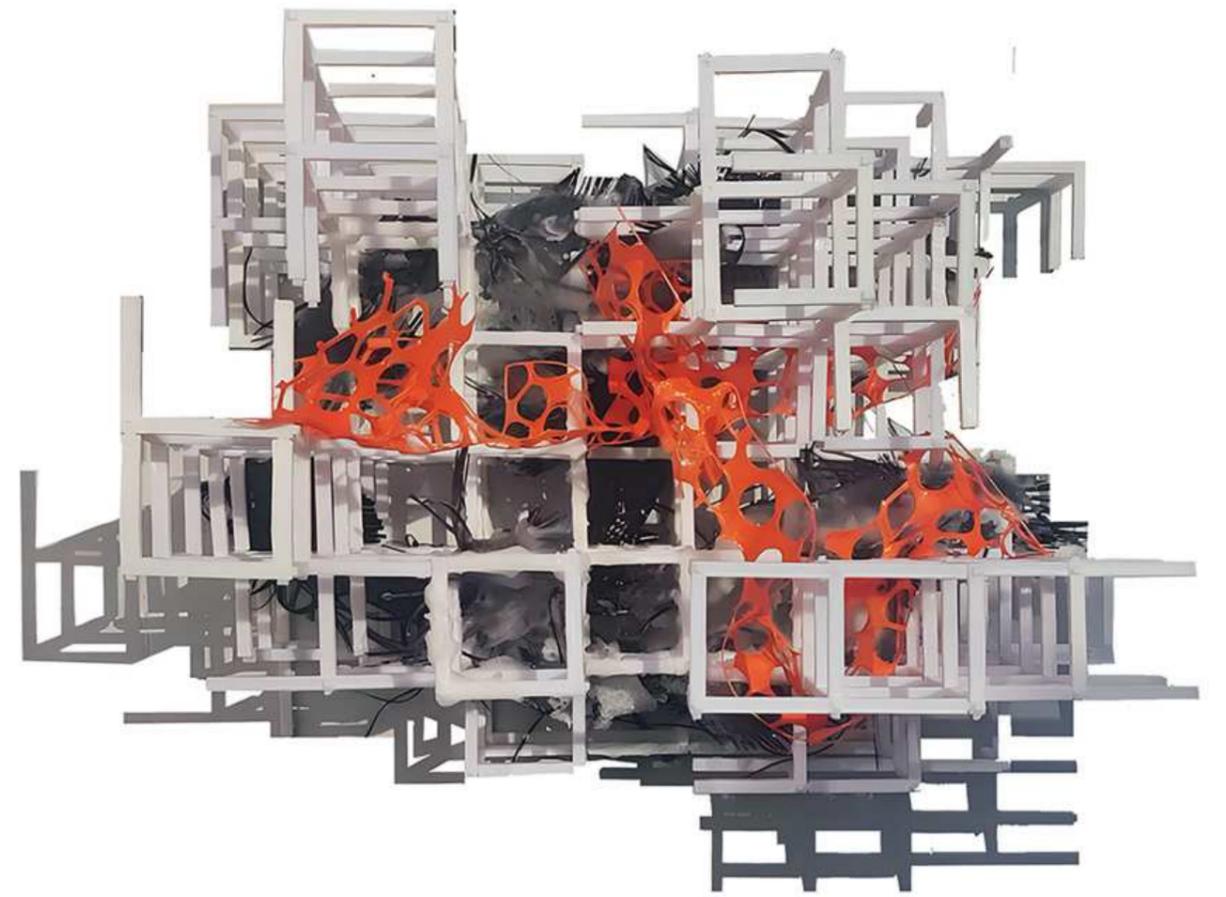


Multiple design iterations were digitally generated based on predefined parameters using the Cellular Automata algorithm. The above-displayed options represent the resultant processed outcomes.

The experiments detailed below illustrate the formation of 3D-printed grids, the mutative integration of carbon fiber with these grids, and the emergent complexity achieved when molten wax is introduced to the mutable framework.



The emergent outcomes demonstrate how the mutable structure undergoes profound disruption by external forces, evolving into a novel anatomical configuration that epitomizes the intricate disruption of immutable form.



ORIGAMI METAL SHELL

Structural Installation

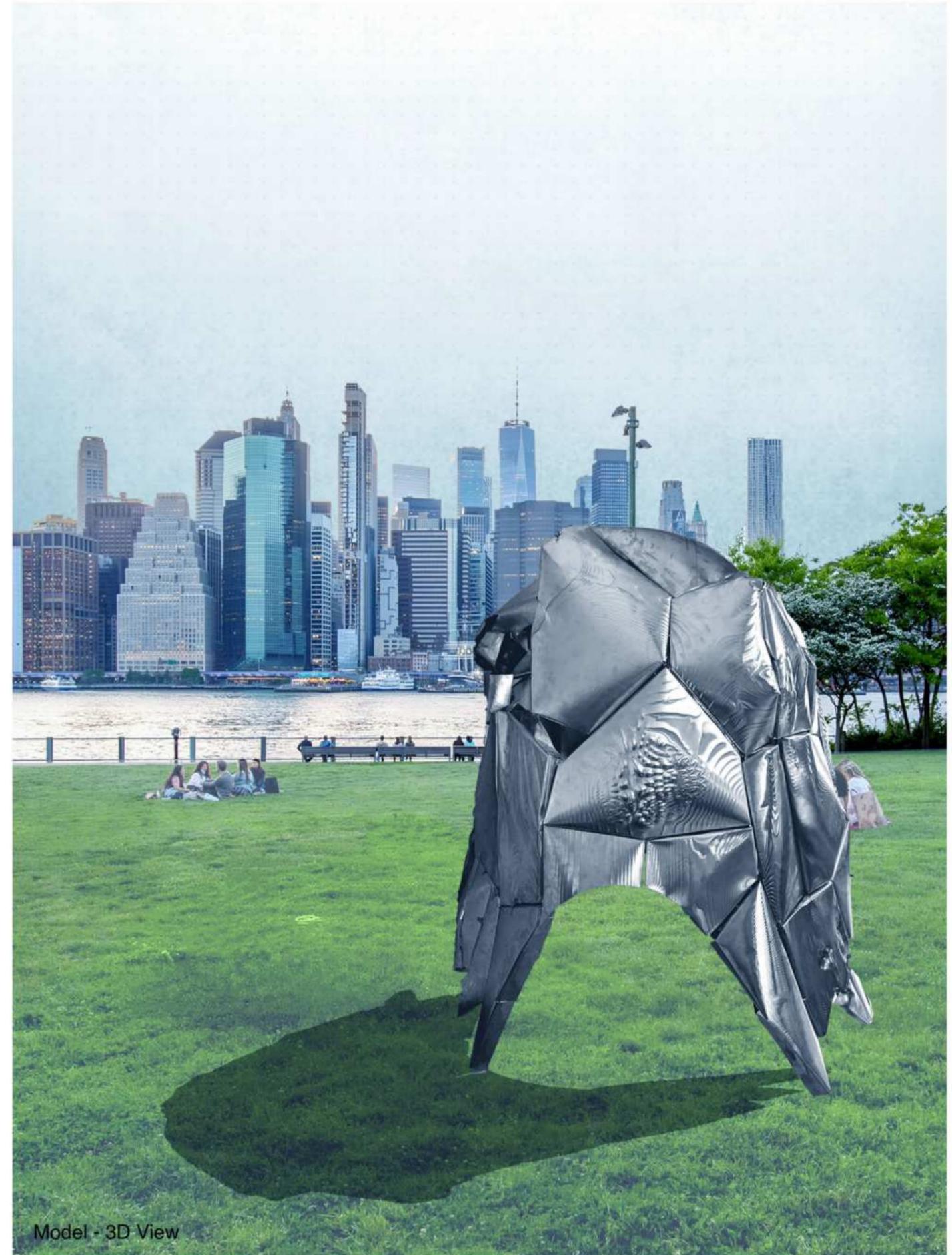
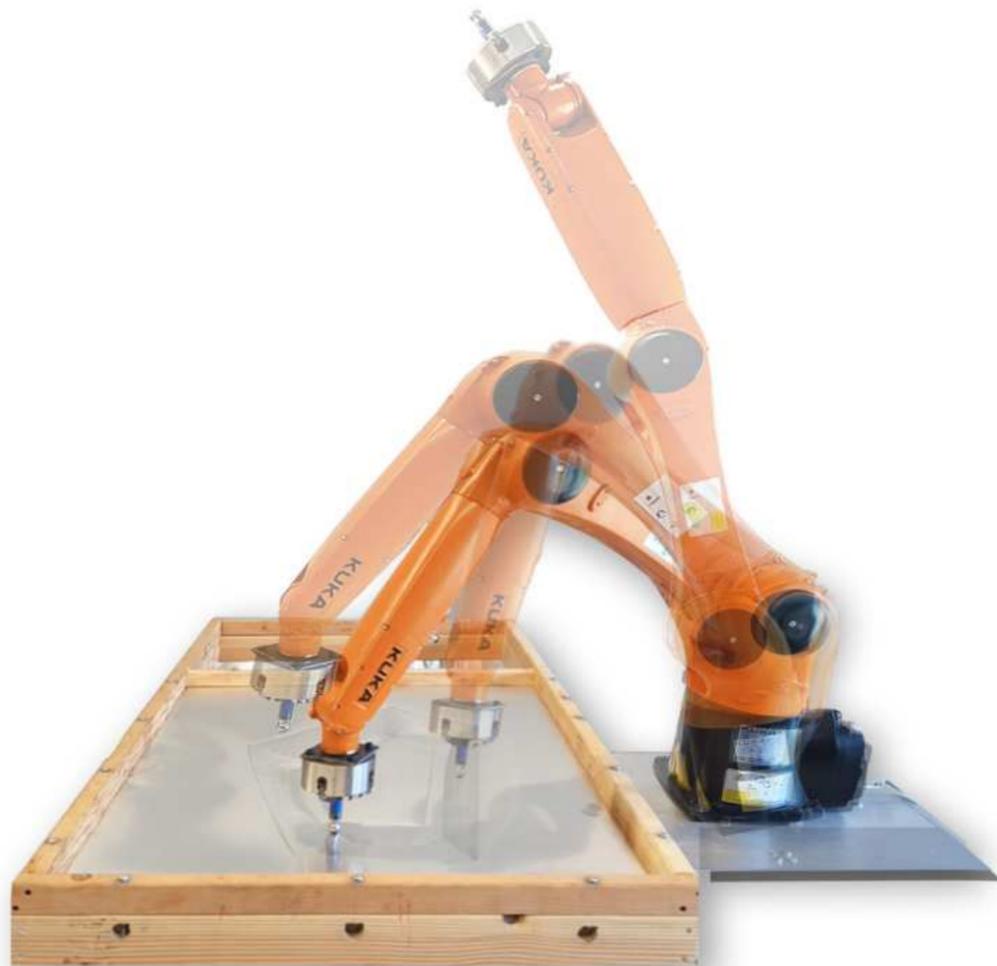
Robotic Fabrication - Shell Structures

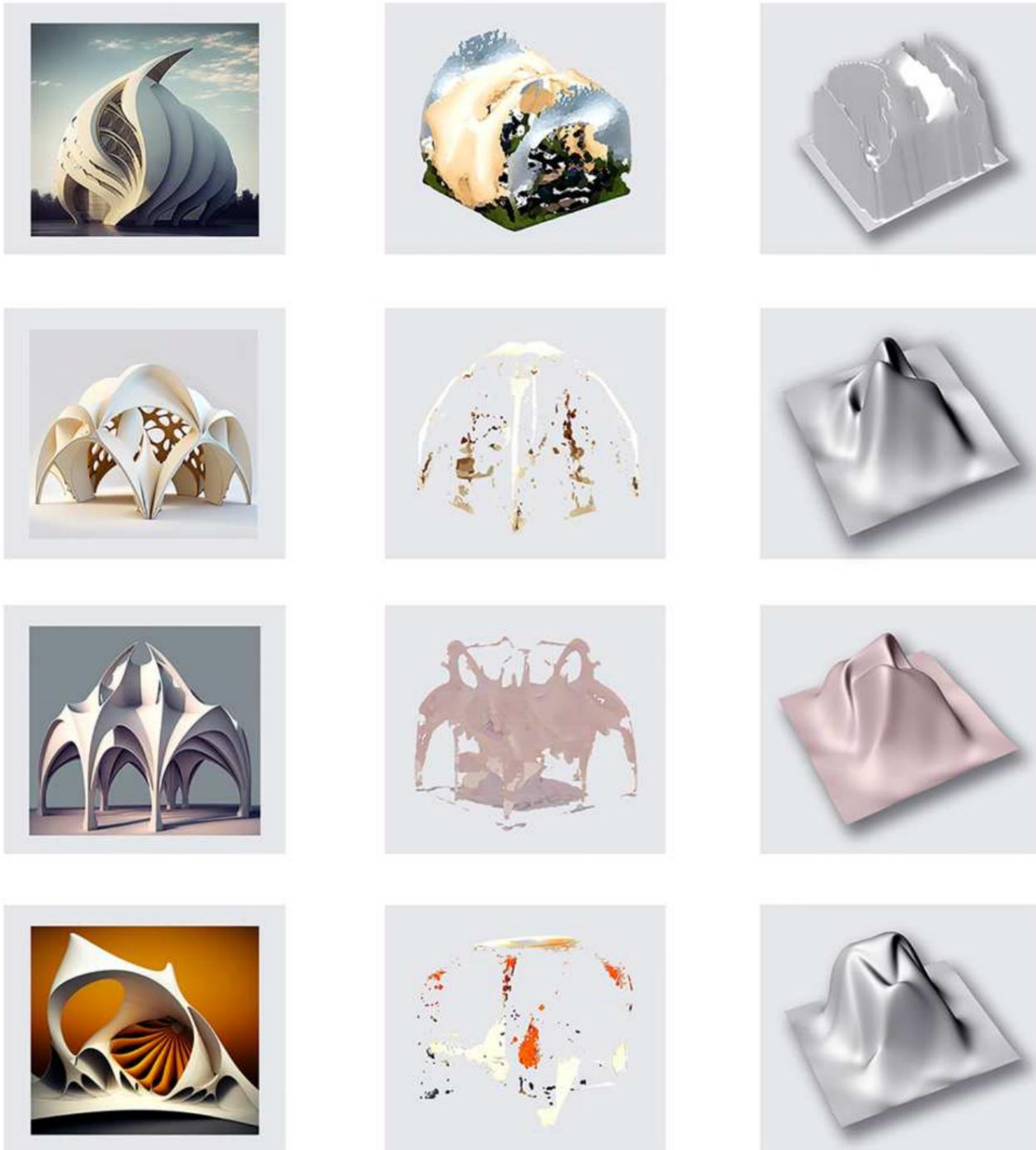
Prof. - Pablo Lorenzo Eiroa

Location - Stapleton Esplanade, Staten Island, NYC, USA.

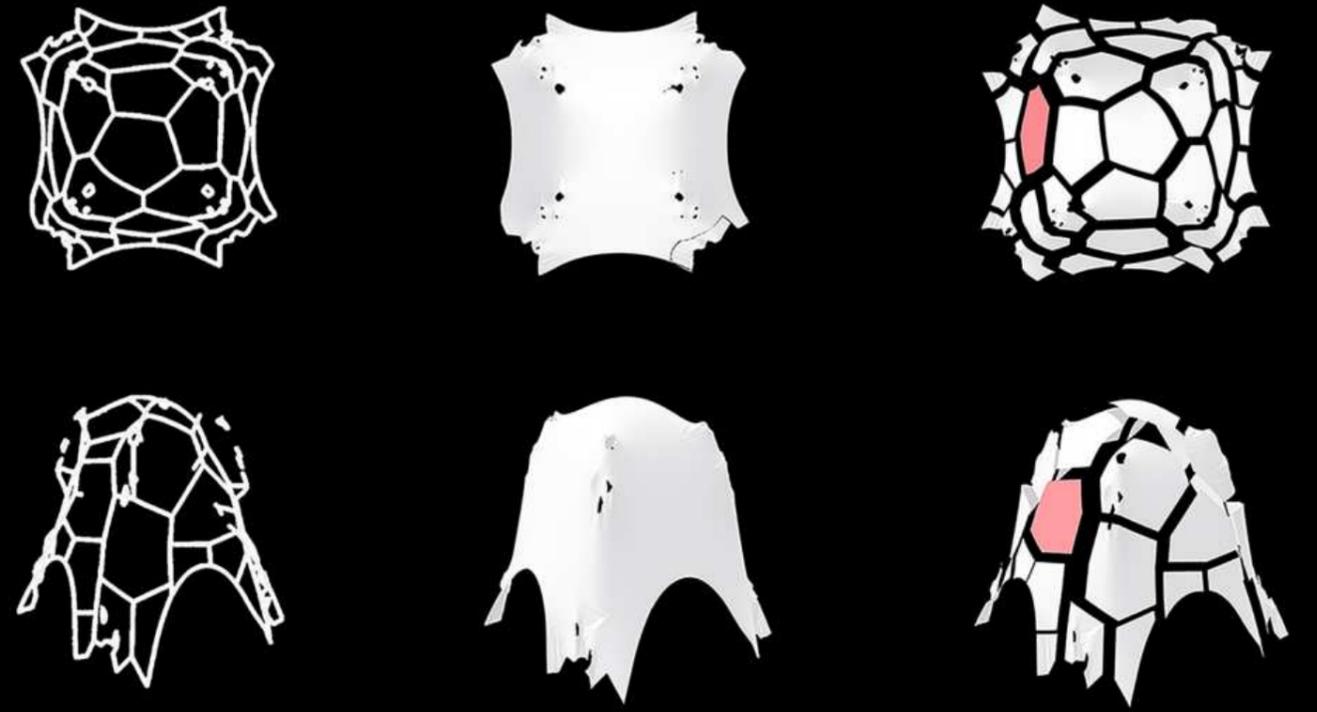
Antoni Gaudi's 1908 skyscraper for NYC is reinterpreted here as a prototype based on structural concatenated catenaries actualized as signal feedback simulation/optimization across generations conforming an Artificial Neural Network.

The installation prototypes a skyscraper using catenaries to optimize a slab-based system, letting viewers experience an empty structural envelope with a catenary-dome landscape.





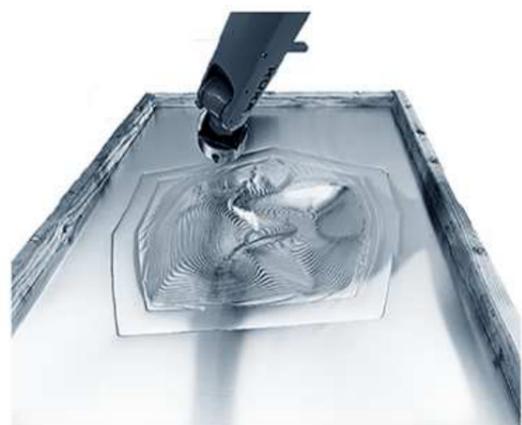
AI performs 2D to 3D perspectival estimation and generates full 3D predictions. This process involves AI-driven interpolation and generative features, using a trained Gaudi repository to ensure accurate and detailed 3D models.



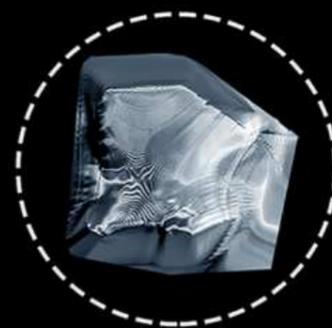
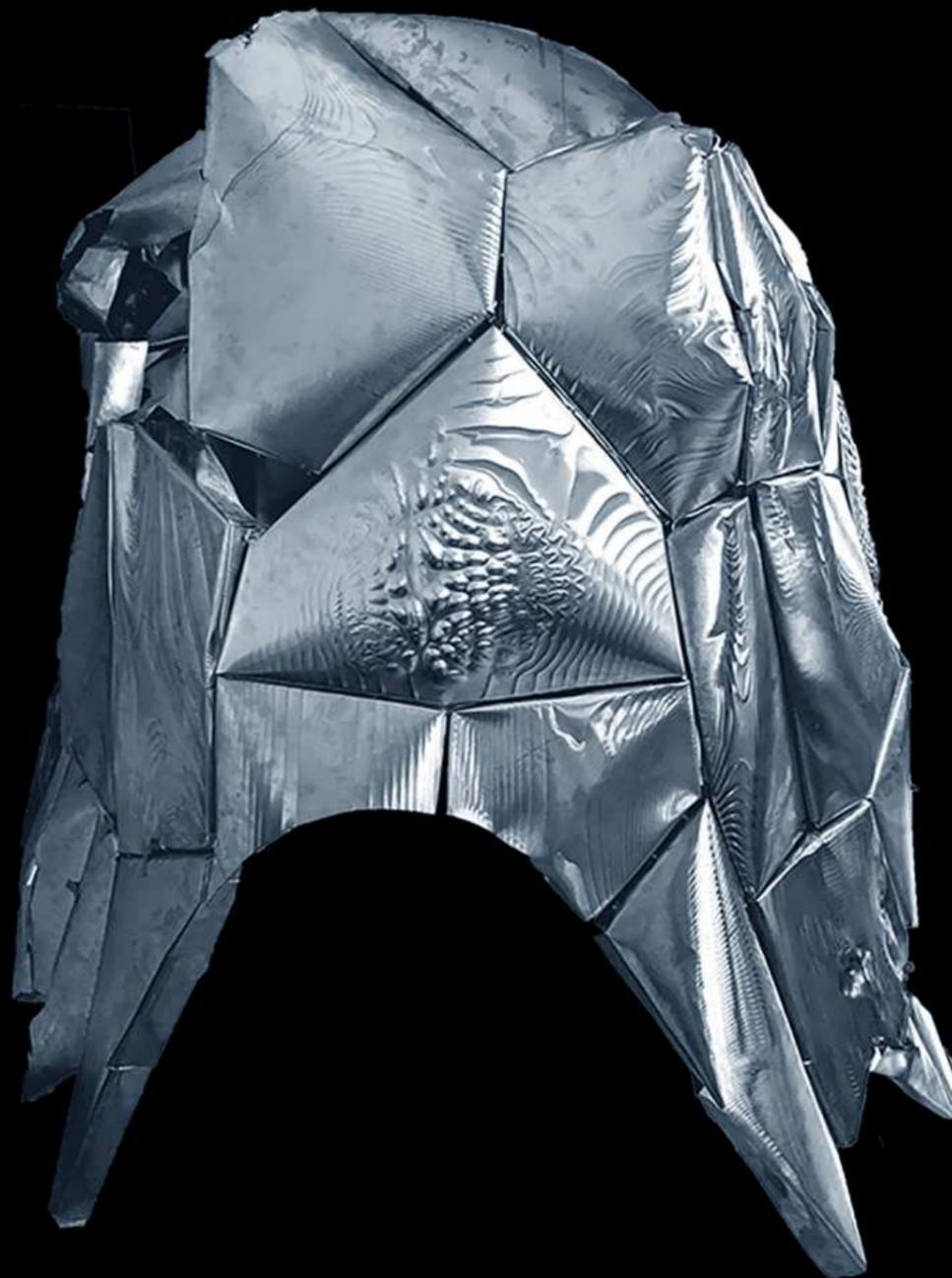
We challenge traditional fabrication by developing robotic processes for computational signal processing, where physics actively collects, analyzes, and implements data, thereby challenging the original digital model.



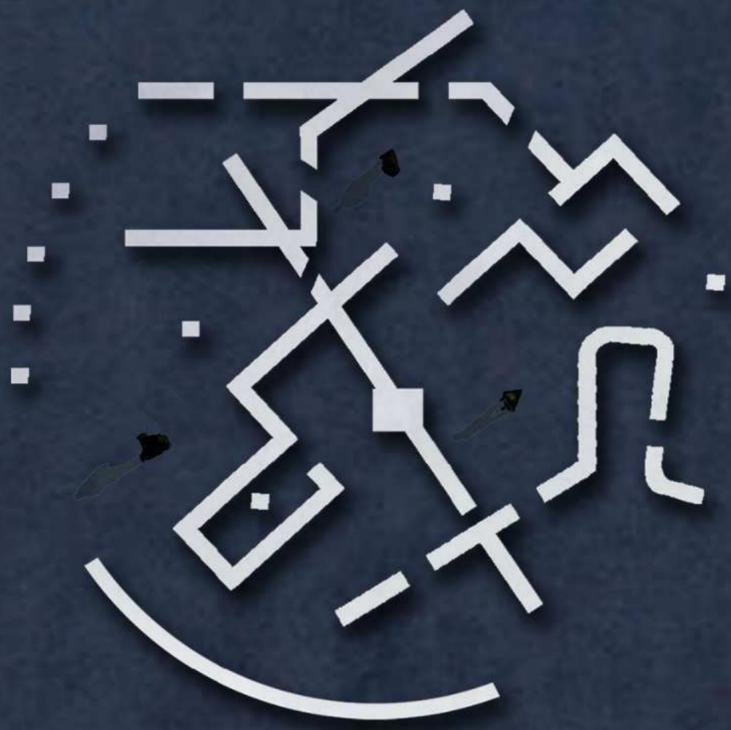
By integrating geometry, simulation, mathematics, and physics, we form an architecture of information, creating an informational semiotics of physical signals that redefines relationships within the fabrication process.



As incremental deformations in the ultra-thin 0.5mm surface structure gain strength and inertia, site conditions become active, influencing the subsequent computational process and enabling site-specific computations in the fabrication process.



Robotic fabrication is typically validated through the flawless creation of a digital model, resulting in fabrication that merely represents the model and suppresses potential emergent complexities, limiting the scope for unexpected developments and innovations.



Kush Shah

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