

ARCHITECTURAL PORTFOLIO

NEHA VIGNESH

SELECTED WORKS 2020-2025

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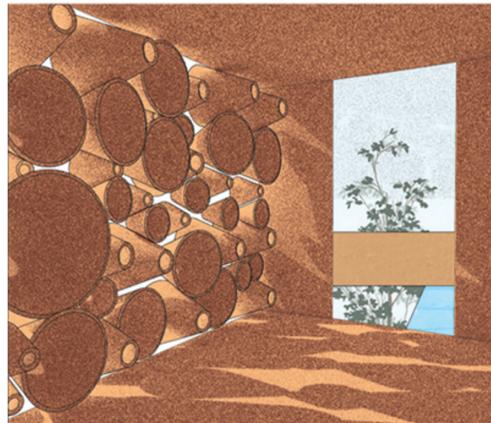


CONTENT

01 Agave Ember

A distillery that explores passive cooling systems.

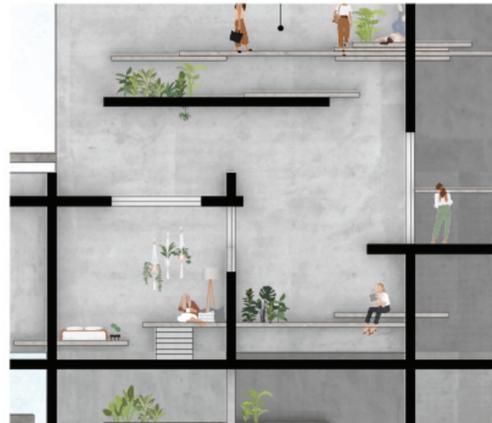
*Project Sheets - pg: 4-13
Design Process - pg: 14-15*



02 Versatility

A transit oriented housing project to enhance local community

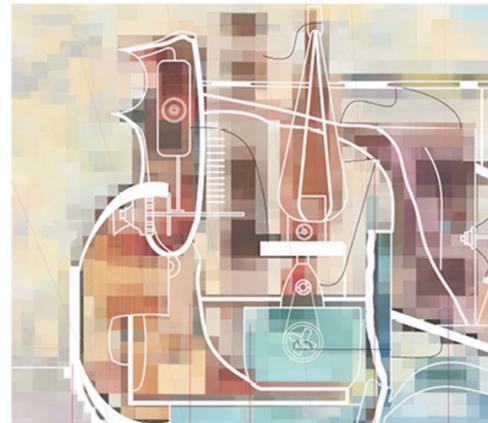
*Project Sheets - pg: 16-23
Design Process - pg: 24-25*



03 Inferno

A food city igniting sensation through heat with material and technique.

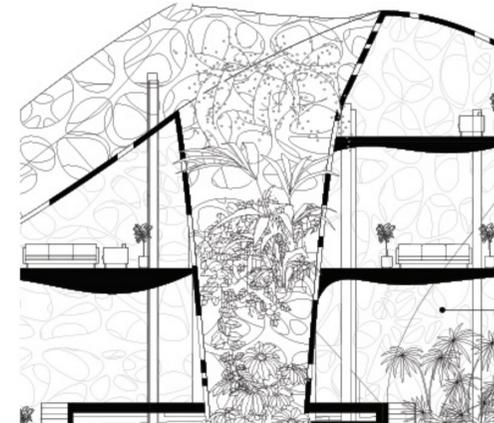
*Project Sheets - pg: 26-31
Design Process - pg: 32-33*



04 Horizon

A half way home and rehab center that explore biophilic environment

*Project Sheets - pg: 34-41
Design Process - pg: 42-43*



05 700 Palms

A revit exercise of modeling case study house.

Project Sheets - pg: 44-53



01

Agave Ember

Project program
Distillery

Location
Little Tokyo, LA

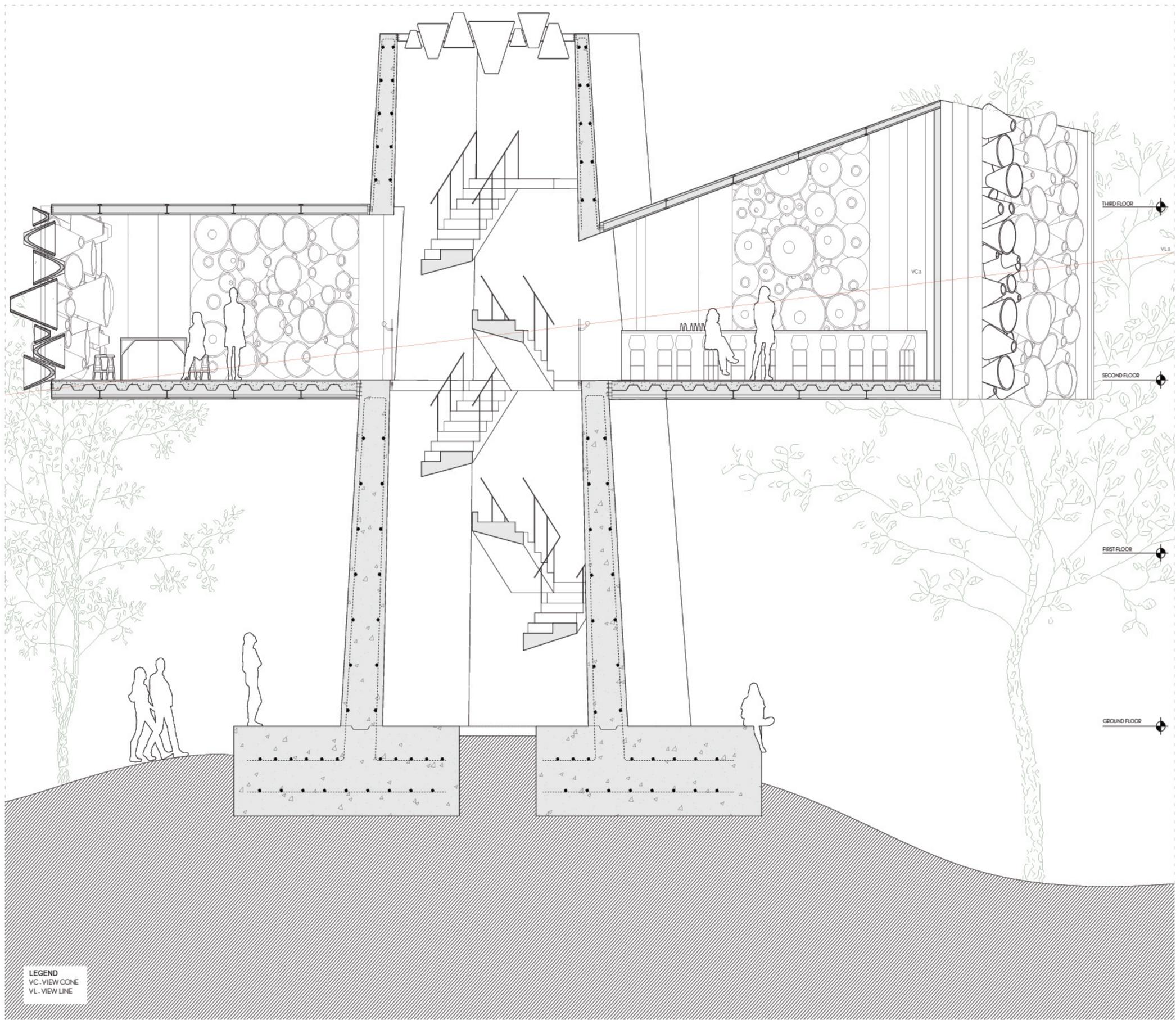
Instructor
Scrap Marshall

Year
2023

A tequila distillery in Little Tokyo utilizes a **passive cooling system**, integrating various **cone structures** to enhance both functionality and aesthetics. **Terracotta cones** serve as passive cooling elements, while others function as **wind towers**, channeling airflow to regulate temperature. Some cones extend outward into Eastman, offering **expansive views** of the surrounding site.

The on-site vegetation plays a dual role—naturally controlling temperature while also **infusing the tequila with distinct seasonal flavors**, resulting in a unique taste that evolves throughout the year. The wind towers, constructed from heavy concrete with a **turquoise tint**, complement the warm hues of the terracotta. Together, these elements echo the **appearance of traditional copper** distillation equipment and its aged patina, seamlessly blending the architecture with the tequila-making process.

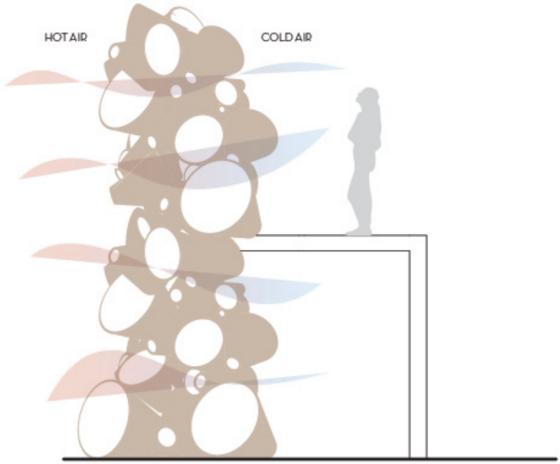




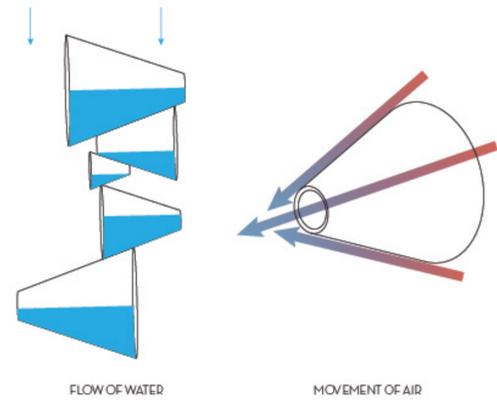
_Wall Section

[Terracotta]

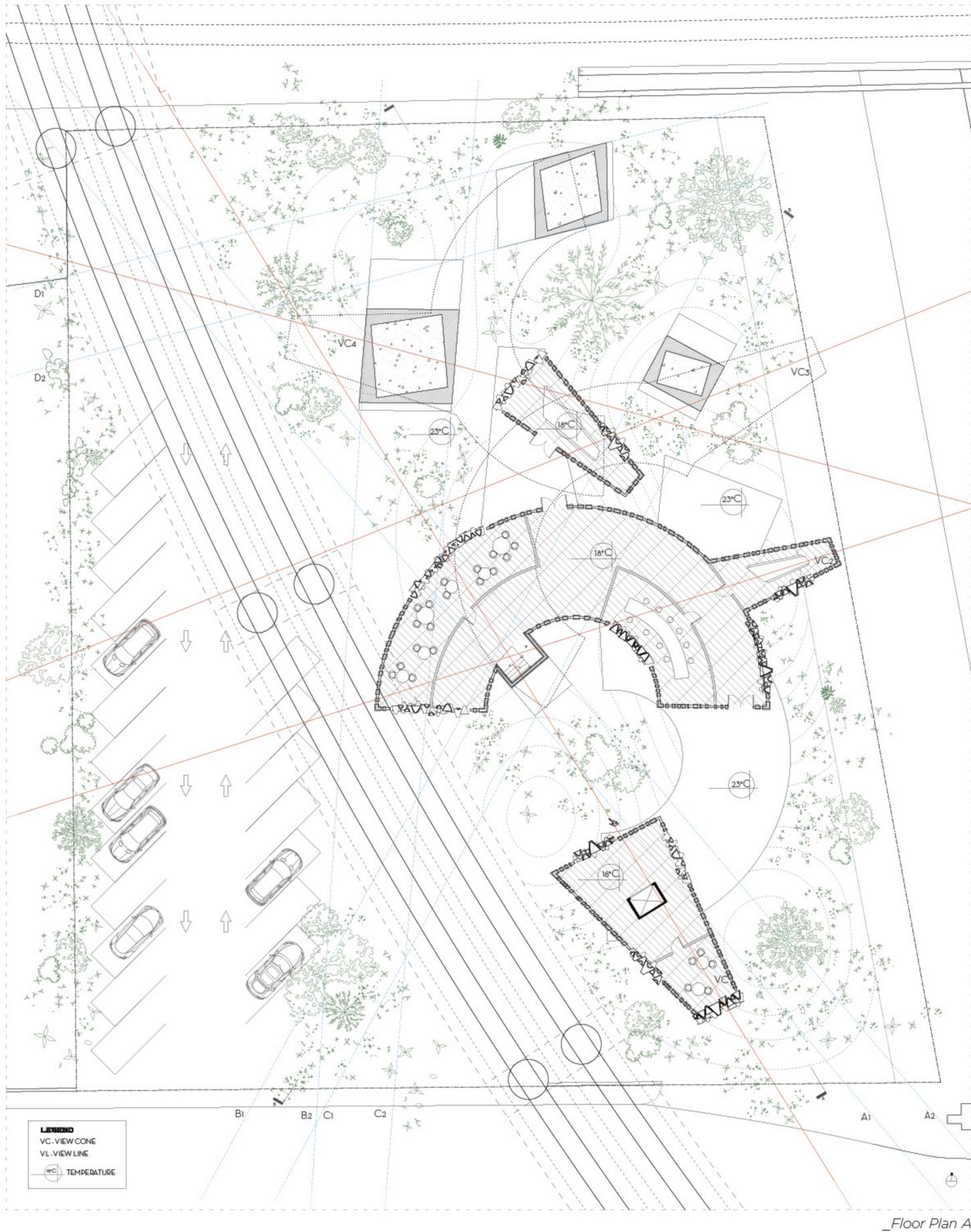
Terracotta's **natural cooling** properties, long used across cultures, are harnessed here through **cone-shaped screens**. Water flows through these cones, enabling **evaporative cooling** as air passes through, effectively **lowering temperatures**. This traditional technique creates a noticeable temperature difference, offering a sustainable, natural cooling solution.



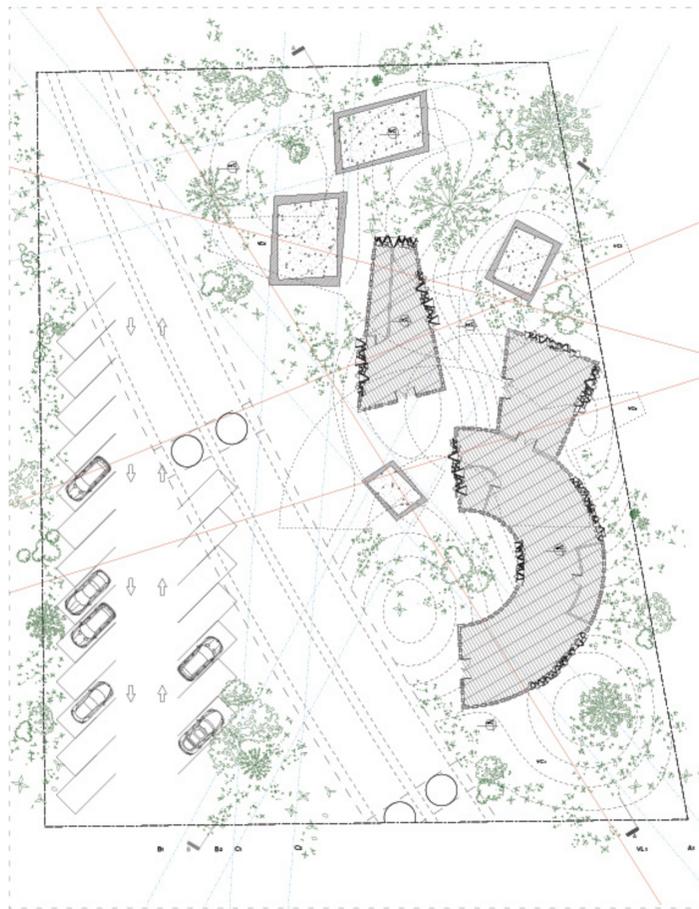
_Passive cooling system



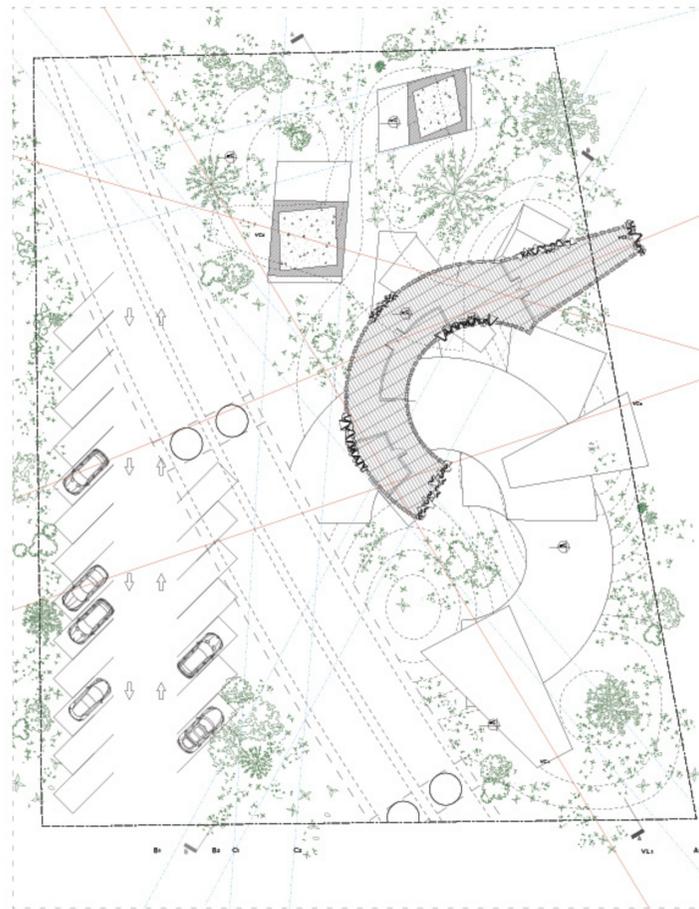
_Terracotta cones cooling system



_Floor Plan A



_Floor Plan B



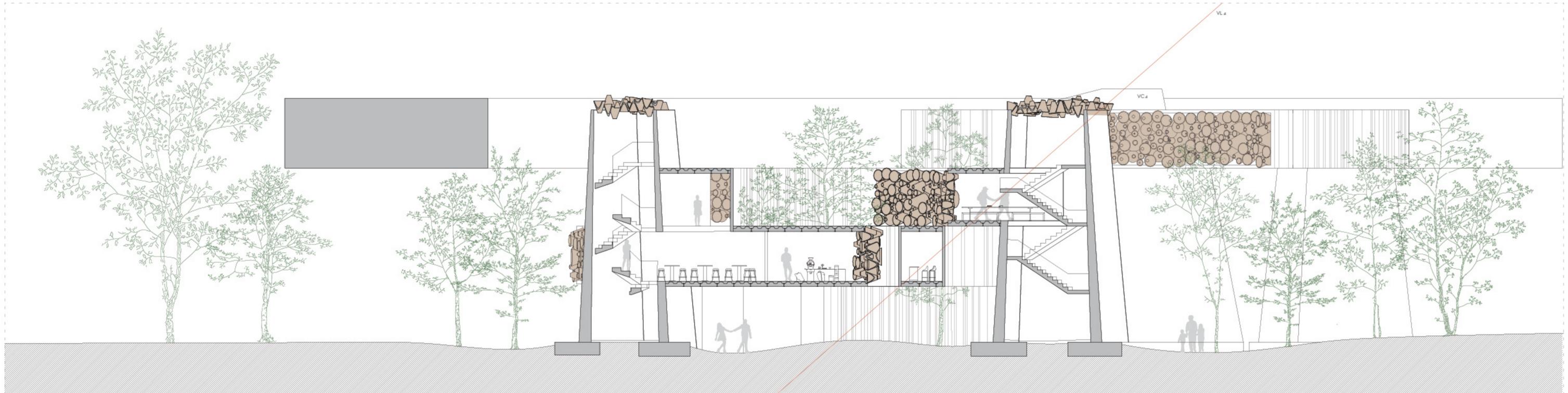
_Floor Plan C

[Views and Site]

Stacked view ports and circular spaces create double-height openness, extending outward to blur boundaries and offer dynamic sight lines. Terracotta cones and slabs enhance cooling, natural lighting, porosity, and privacy. Red lines on floor plans highlight sight lines shaped by view port cones, guiding visual connections. Terracotta slabs in circular spaces provide glimpses into the distillation process, enriching visitor engagement by blending functionality with immersive storytelling.



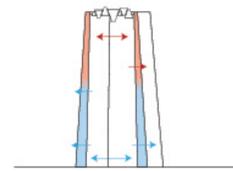
_Section A



_Section B

[Heavy and Light]

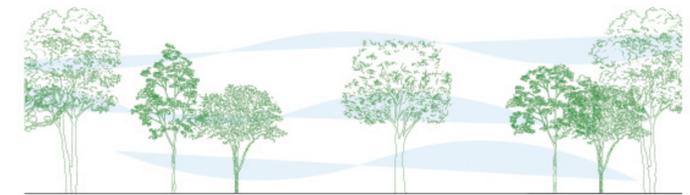
The heavy concrete wind towers regulate **airflow and circulation** while supporting the **cantilevered light structures**. Surrounding vegetation enhances this **balance, providing shade** and influencing tequila's evolving flavors. The site's organic topography creates **dynamic sight lines, enriching the sensory experience**.



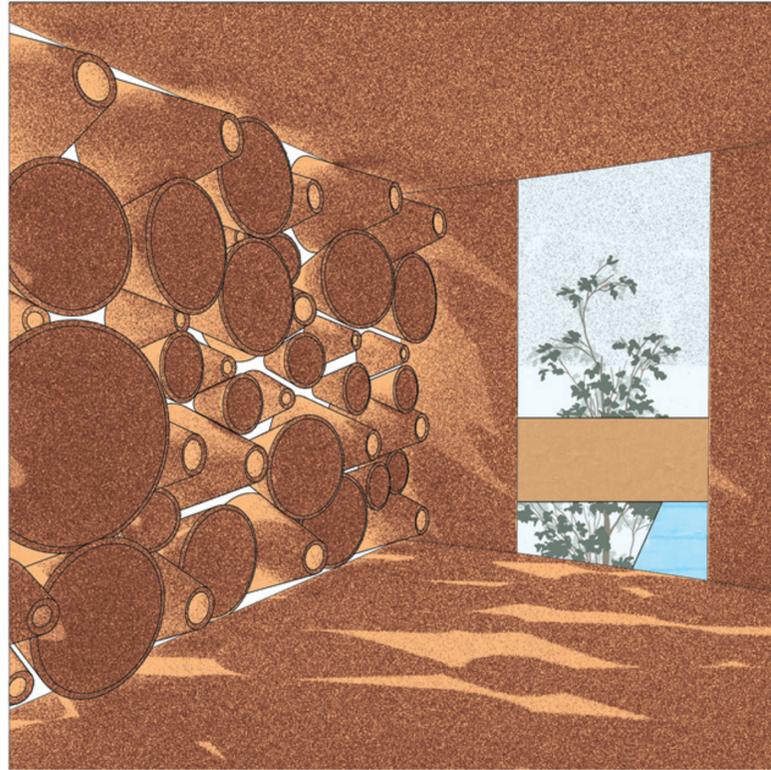
_Temperature in wind tower



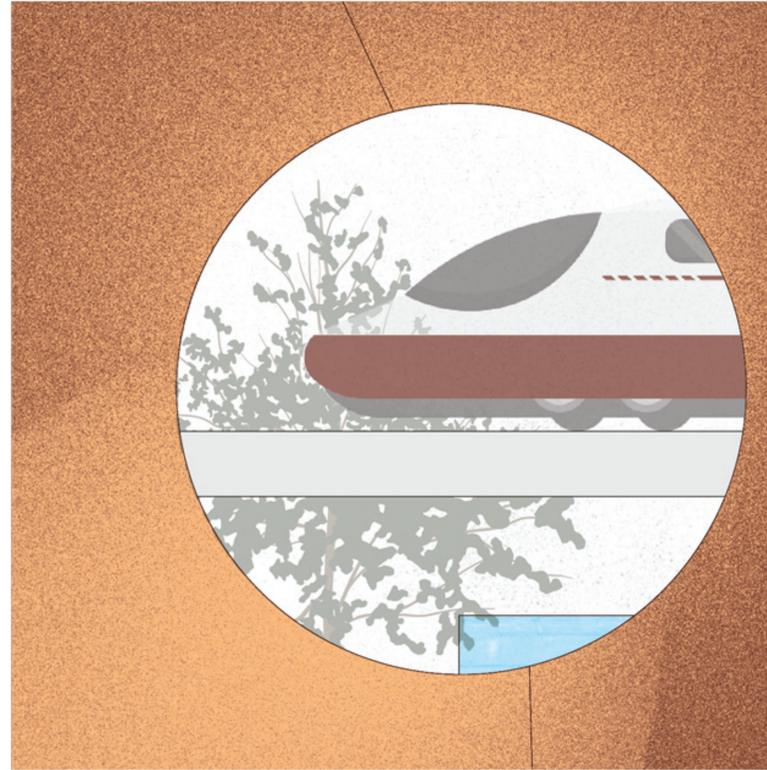
_Internal temperature



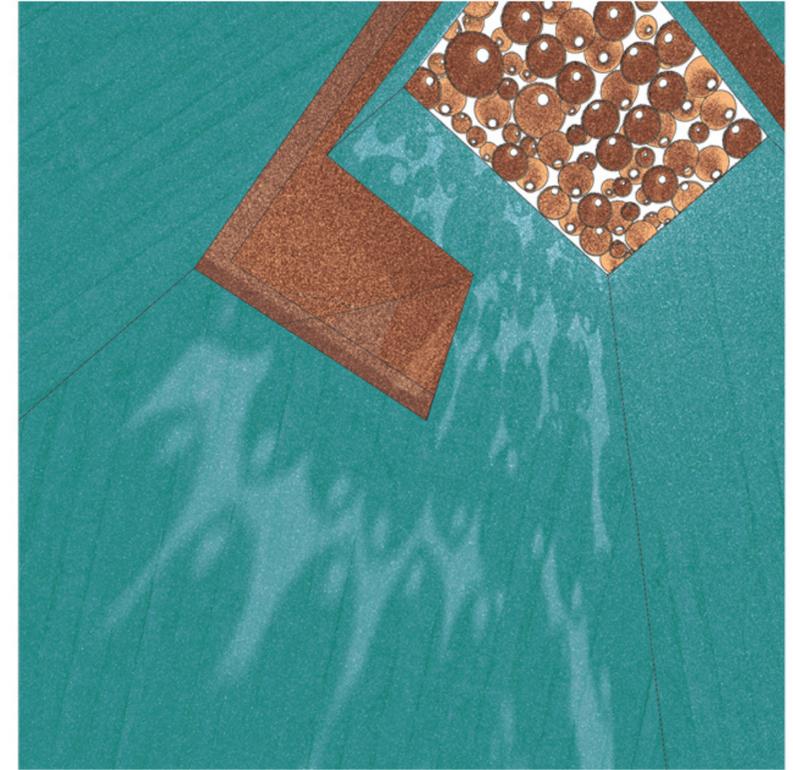
_Vegetation for shading and cooling effect



_Perspective of cones



_Perspective view through cones



_Perspective view in wind tower



_Physical model - ground condition

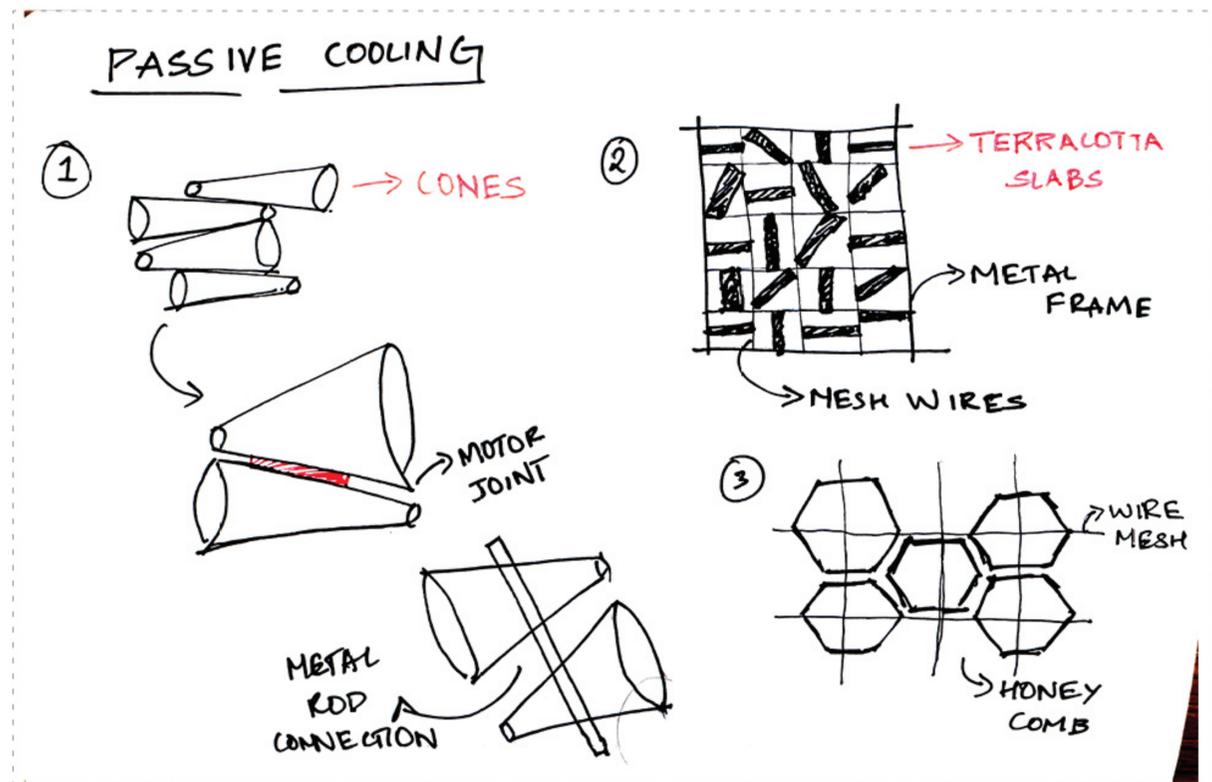


_Physical model - cones

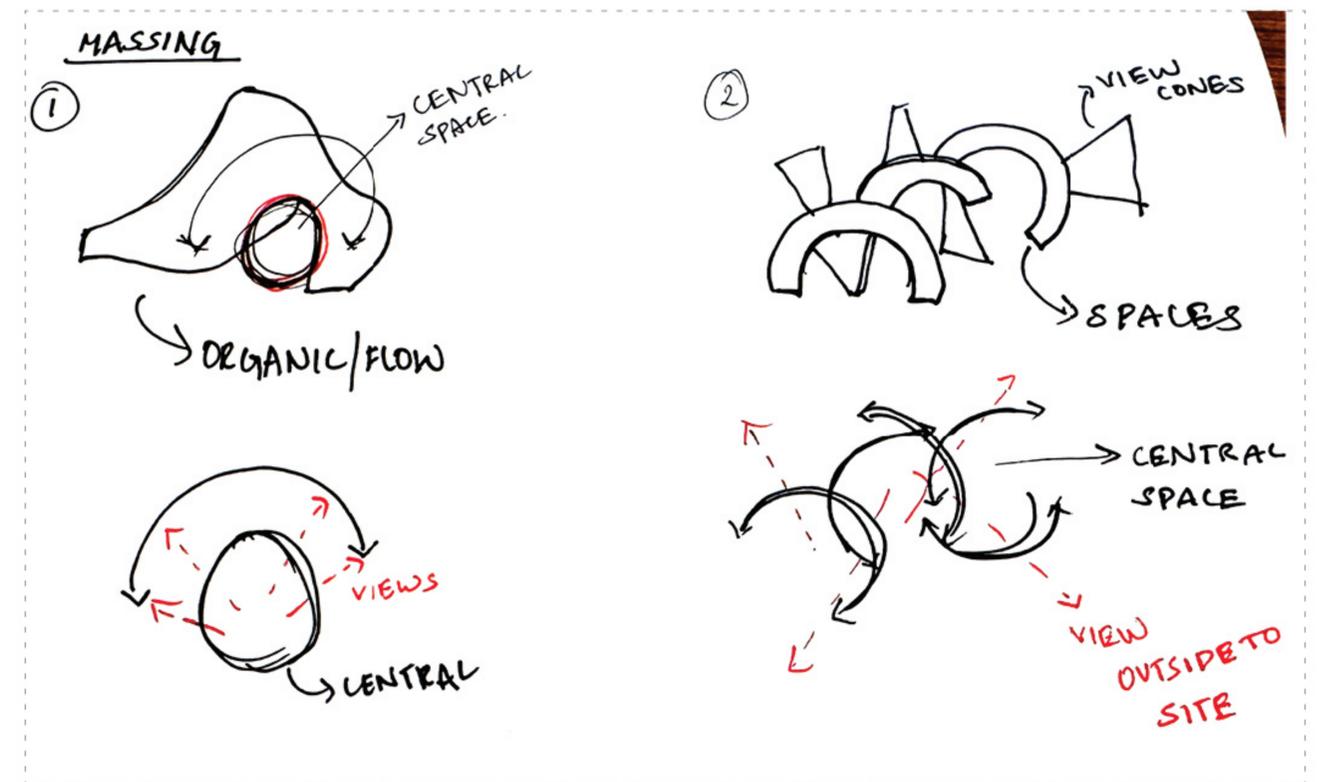


_Physical model - wind tower

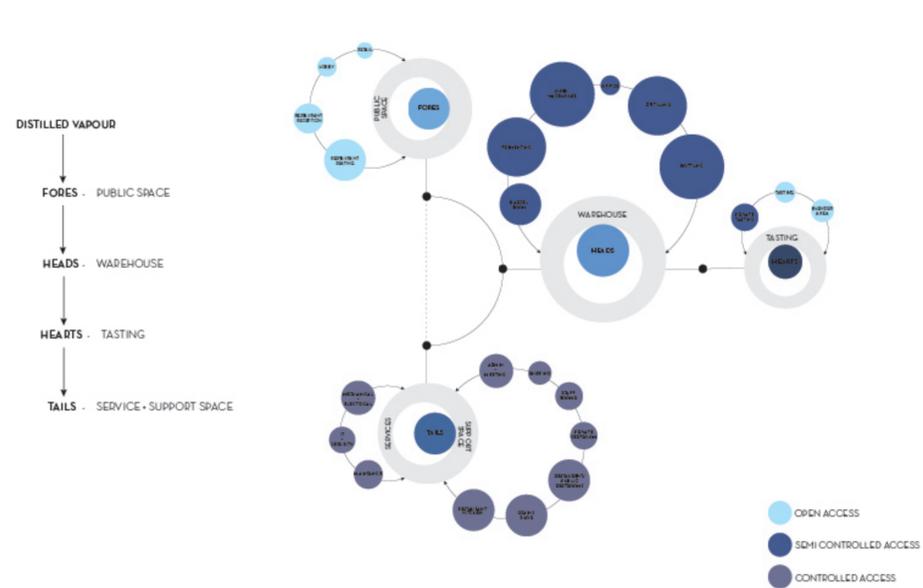
Design Process



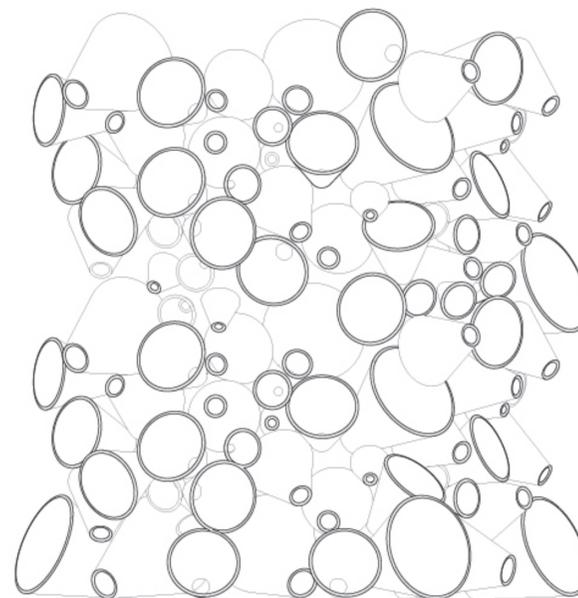
1_Passive Cooling - Iteration sketches



2_Massing Iterations



3_Program Analysis



4_Envelop Mock Up



5_Envelop Mock Up

02

Versatility

Project program
Housing

Location
Little Tokyo, LA

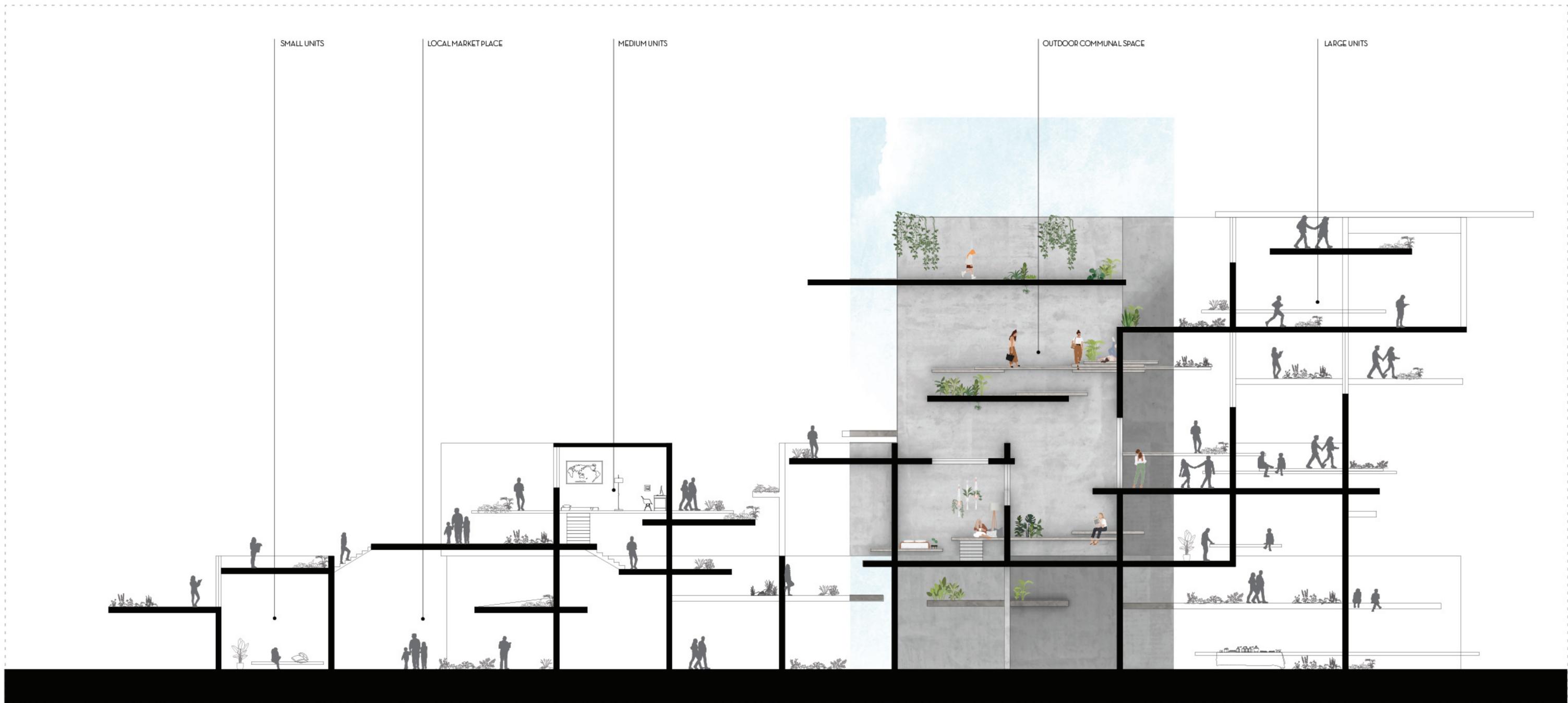
Instructor
Philip Brown

Year
2022

Alongside transit housing, the added commercial program includes a **market space designed for small businesses** affected by gentrification. **Long communal tables** on the ground plane provide a flexible marketplace where vendors can set up and sell their products as needed. This space **naturally integrates with the movement of people** passing through the train station, fostering interaction and economic opportunity.

The structure is composed of intersecting horizontal and vertical planes. The vertical planes follow a precise **20x20 grid**, while the horizontal planes break from this rigidity, **introducing variation**. There are **three** types of units, with the smallest positioned at the lower levels, gradually **increasing in size as they ascend**. This design approach creates a dynamic and adaptable urban environment that accommodates both residential and commercial needs.

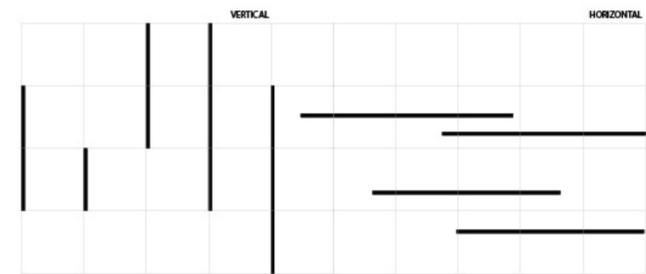




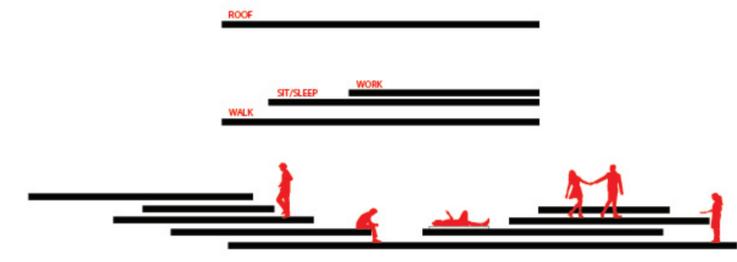
_Section A

[Planes define spaces]

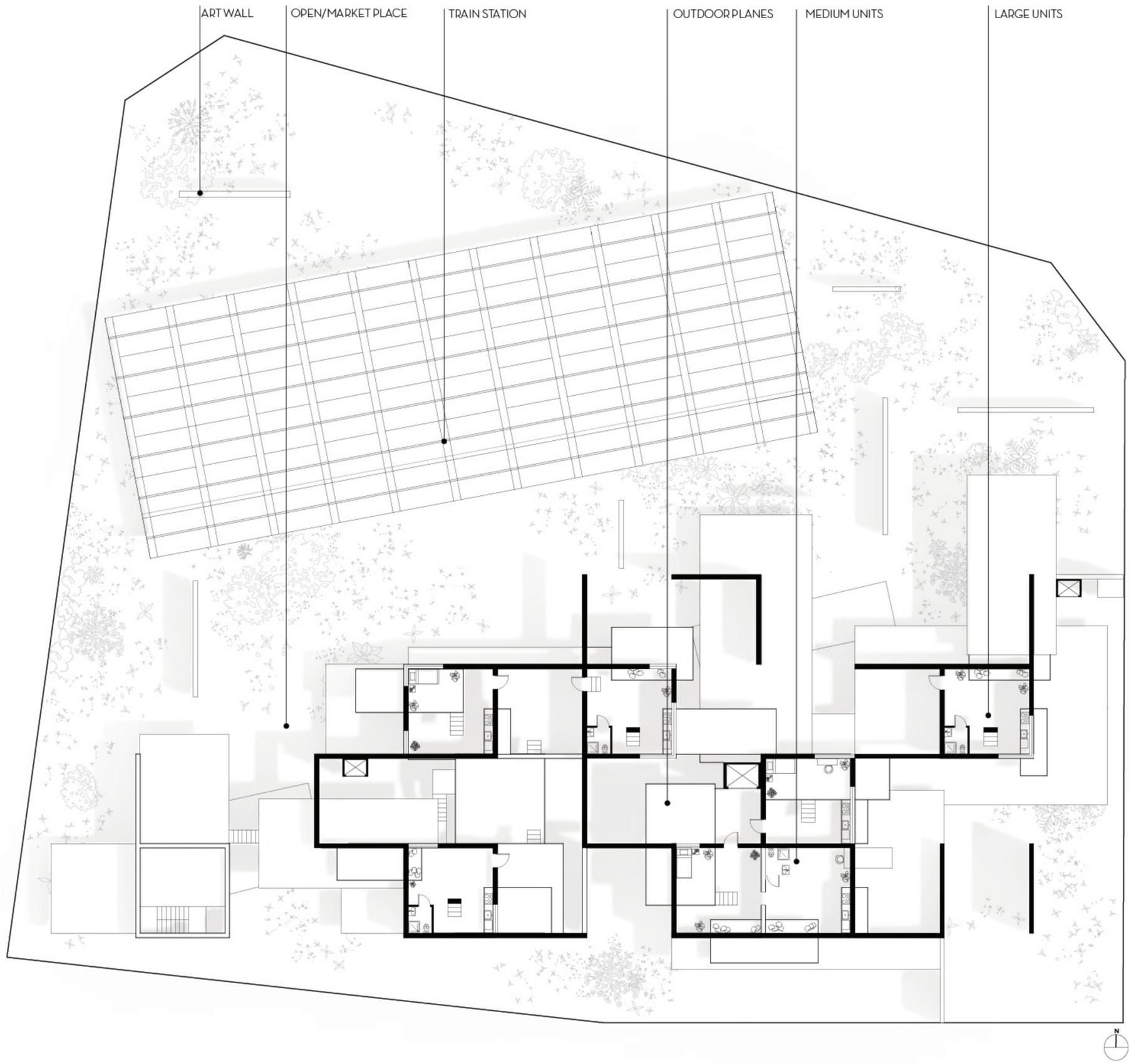
Horizontal planes adapt to **function at varying heights**—serving as seating or sleeping surfaces within units and as circulation or outdoor space beyond them. **Enclosed spaces are limited to units**, seamlessly integrating greenery and open-air environments. On the ground floor, vertical planes in the train station provide **dedicated spaces for local artists**. Corner windows in each unit enhance ventilation and thermal comfort, while the varied plane arrangements create **unique yet cohesive living spaces**.



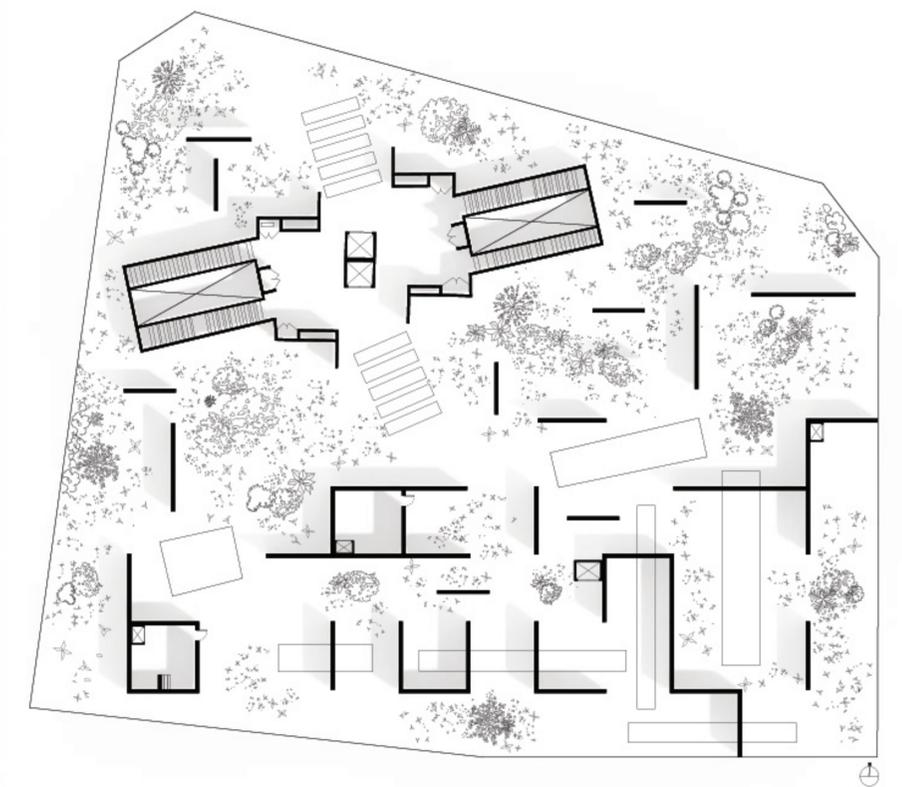
_Planes concept diagram



_Planes function diagram



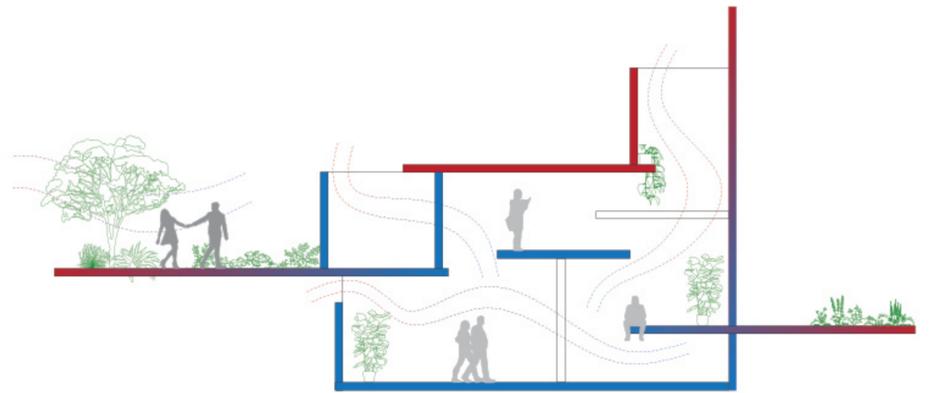
_Second floor plan



_Ground floor plan



_Space distribution - the tighter the lines the busier and smaller the units



_Thermal diagram



_Section detail of market place



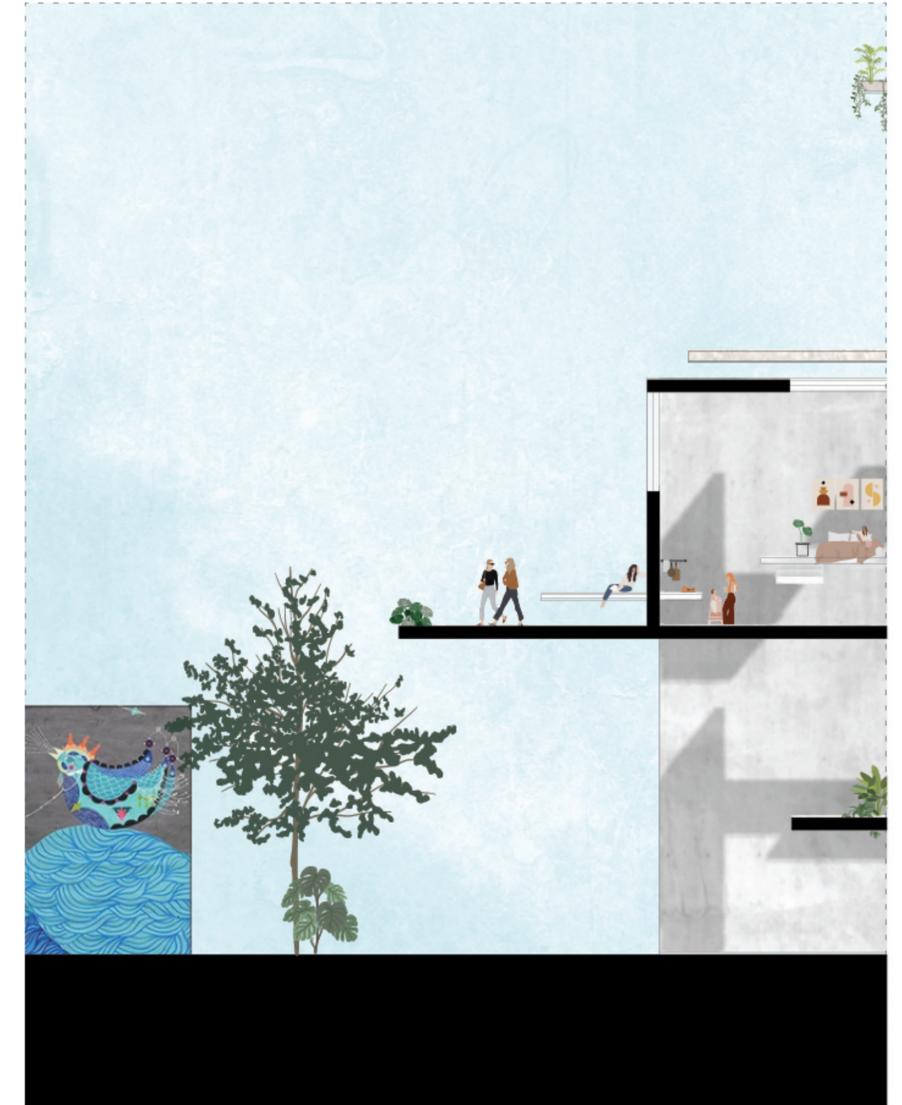
_Section detail of local artist



_Small unit detail



_Large unit and interaction of planes detail

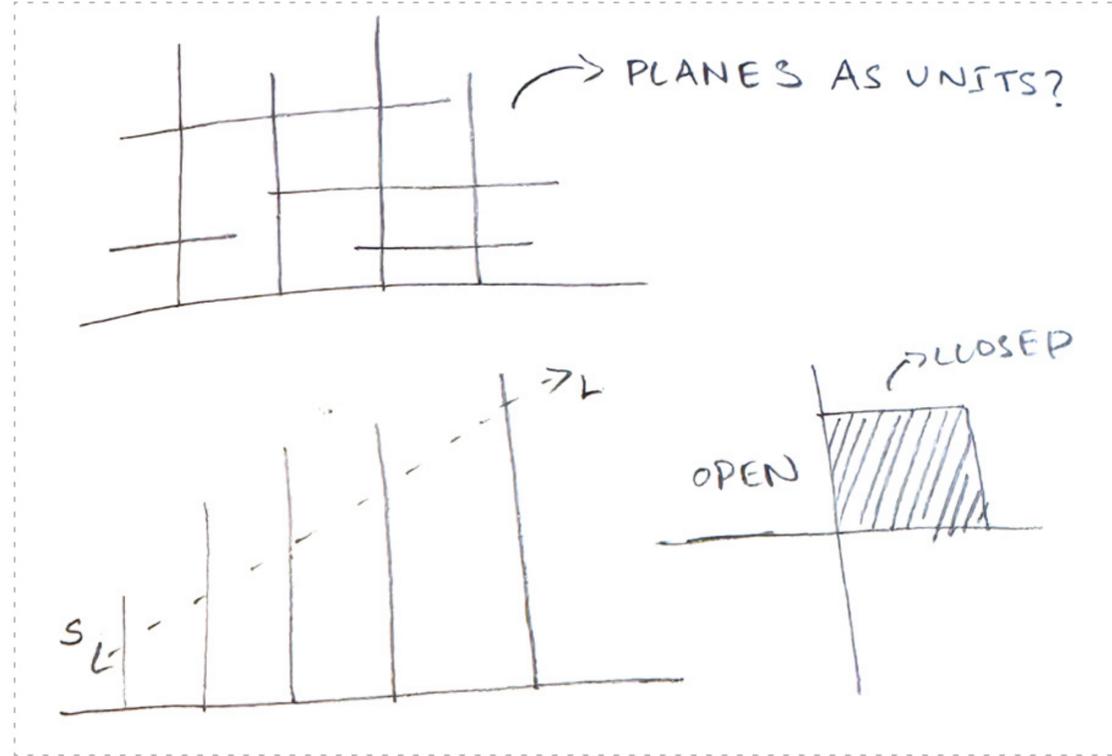


_Relationship of planes with artwork

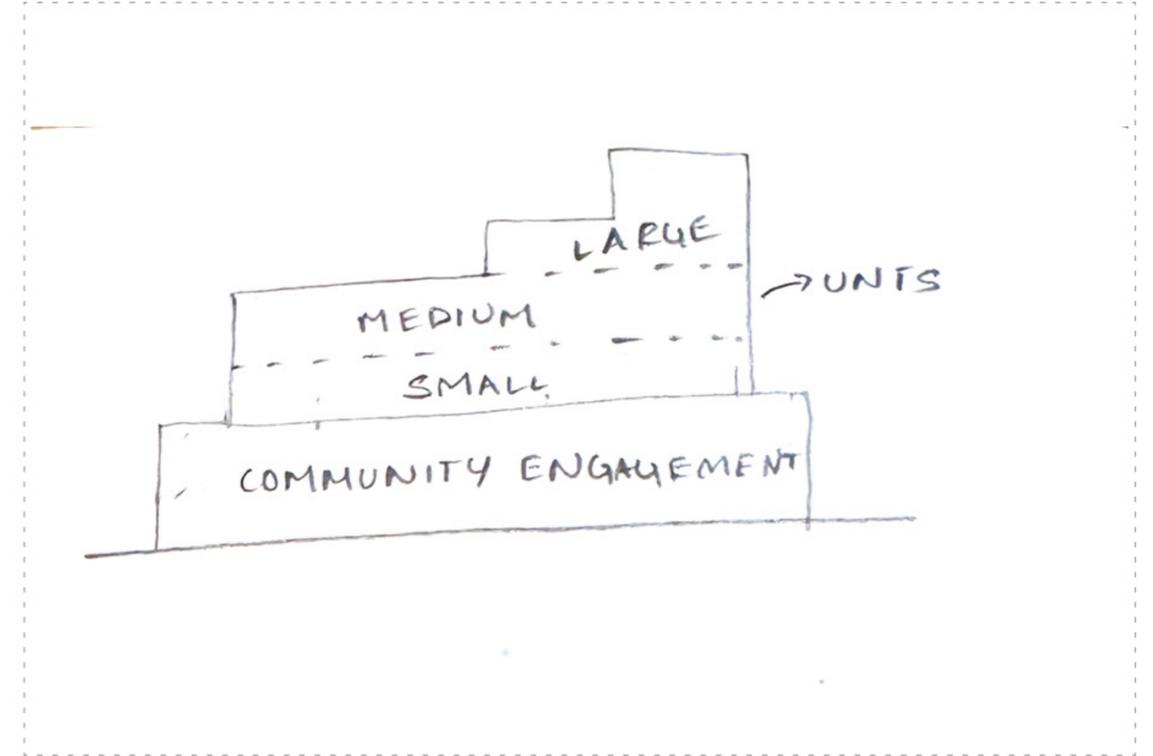
Design Process



_Model Study



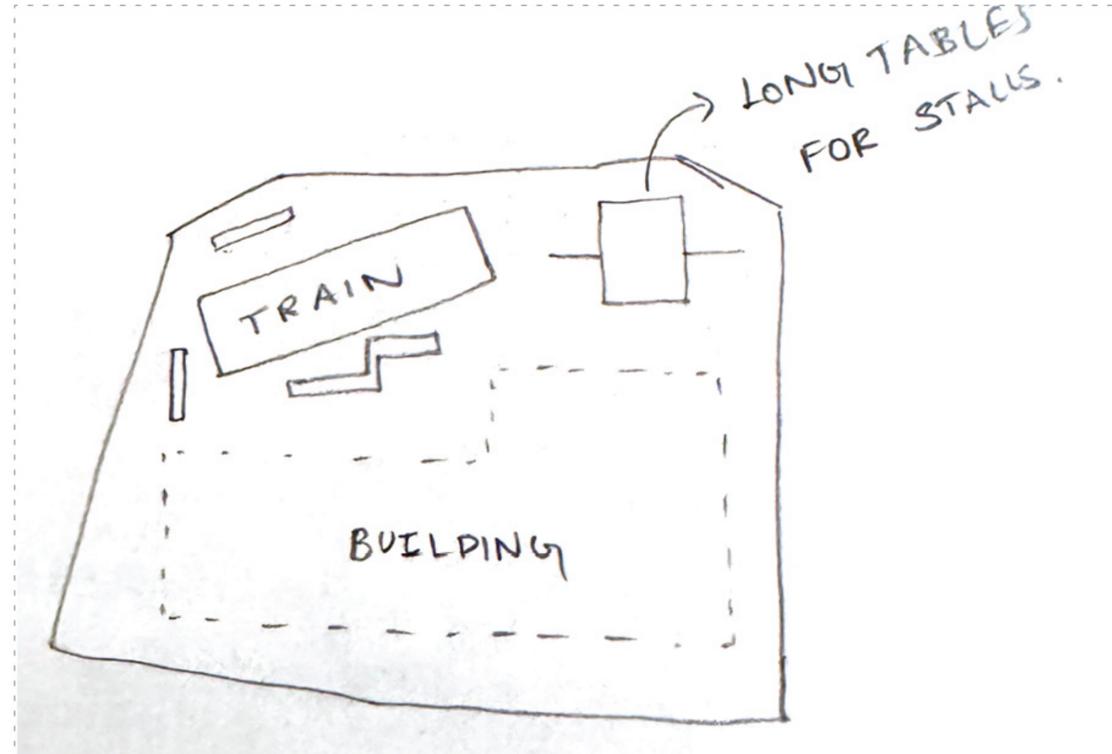
_Unit formation concept



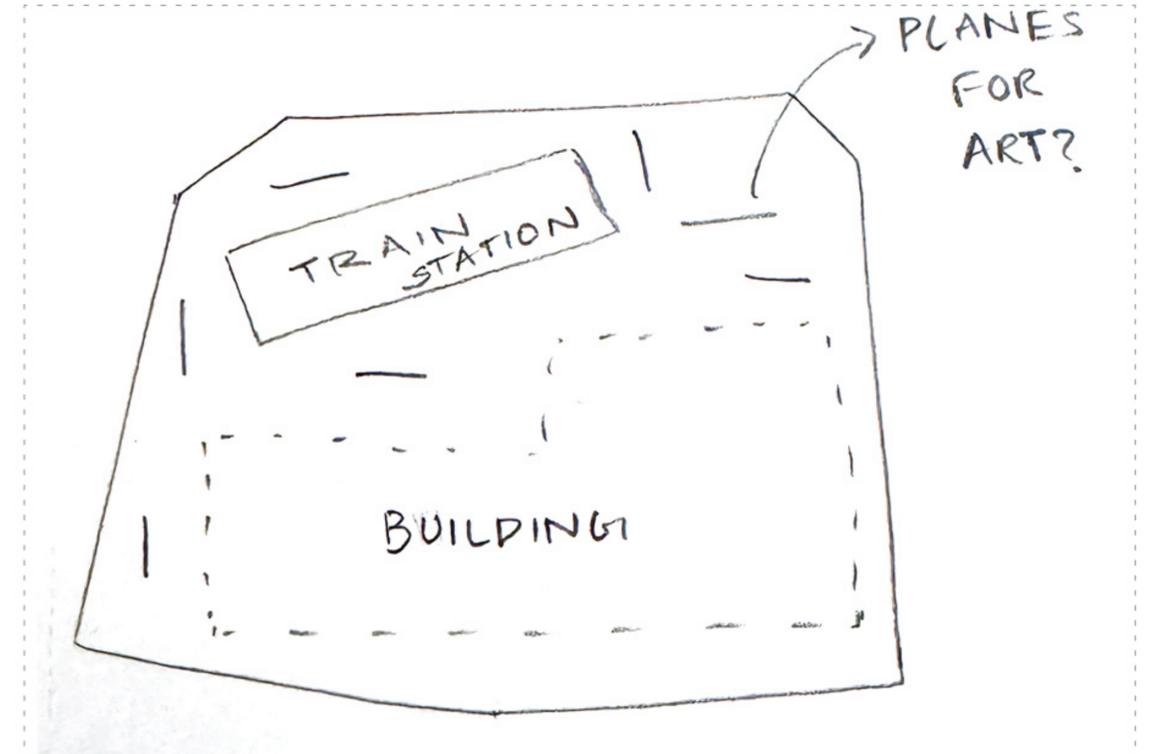
_Space planning



_Model Study



_Site plan study - 1



_Site plan study - 2

03

Inferno

Project program
Food City

Location
Venice, CA

Instructor
Scrap Marshall

Year
2024

Heat, material, and technique are three fundamental elements of the culinary experience, each playing a crucial role in **shaping flavor**. In a city that spans both **subterranean depths and towering heights**, temperature variations influence cooking methods, enabling diverse techniques with **minimal fire usage**.

Conventionally, **heat rises while cold air sinks**, creating a natural movement that results in warmer spaces above and cooler spaces below.

Within this city, culinary spaces are meticulously crafted, where different materials contribute unique qualities to the cooking process. Wood, with its **warm and organic nature**, imparts a distinct smoky flavor as it chars. Ceramic, known for its ability to withstand **high temperatures**. Copper, an **exceptional conductor**, ensures seamless **heat distribution** for precise cooking.

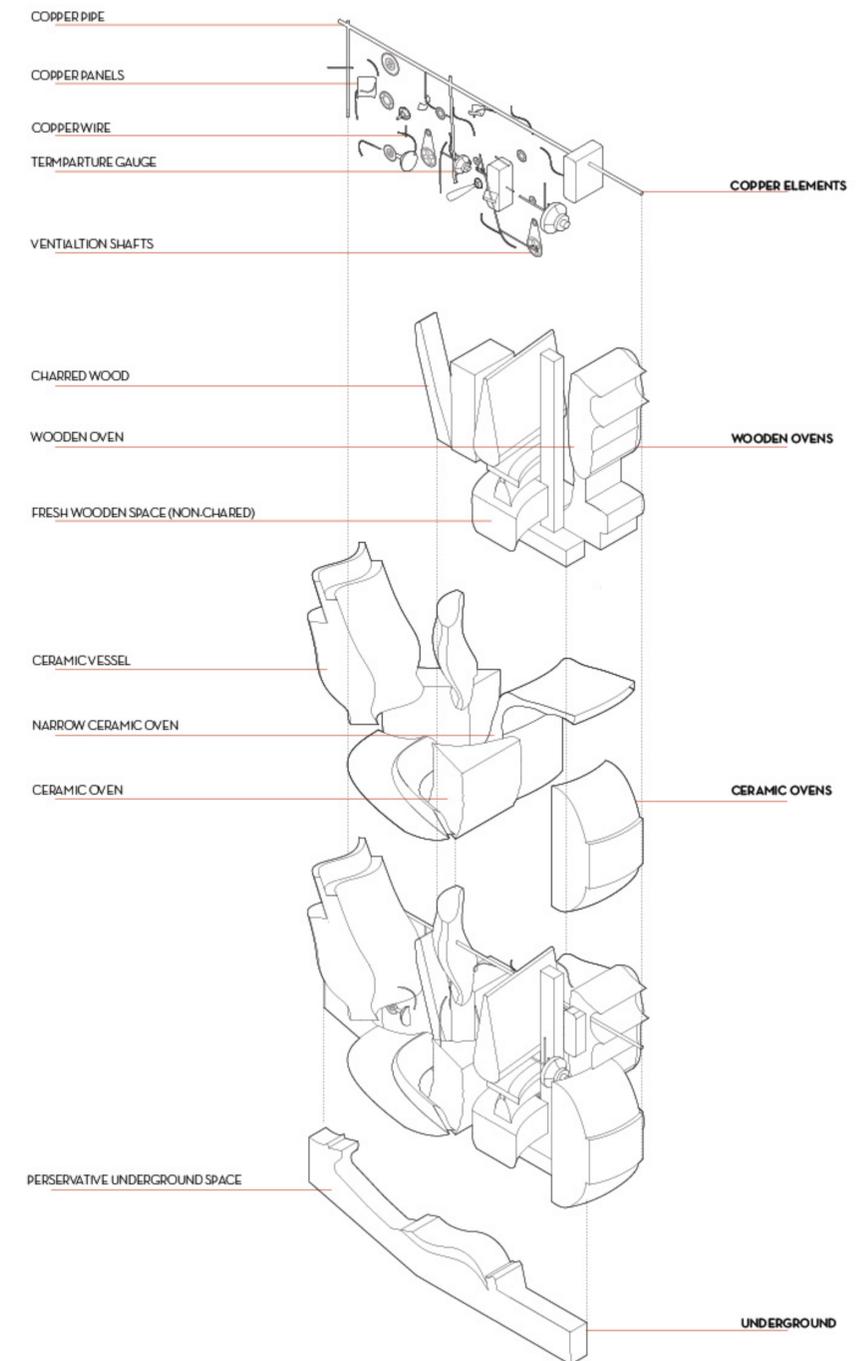




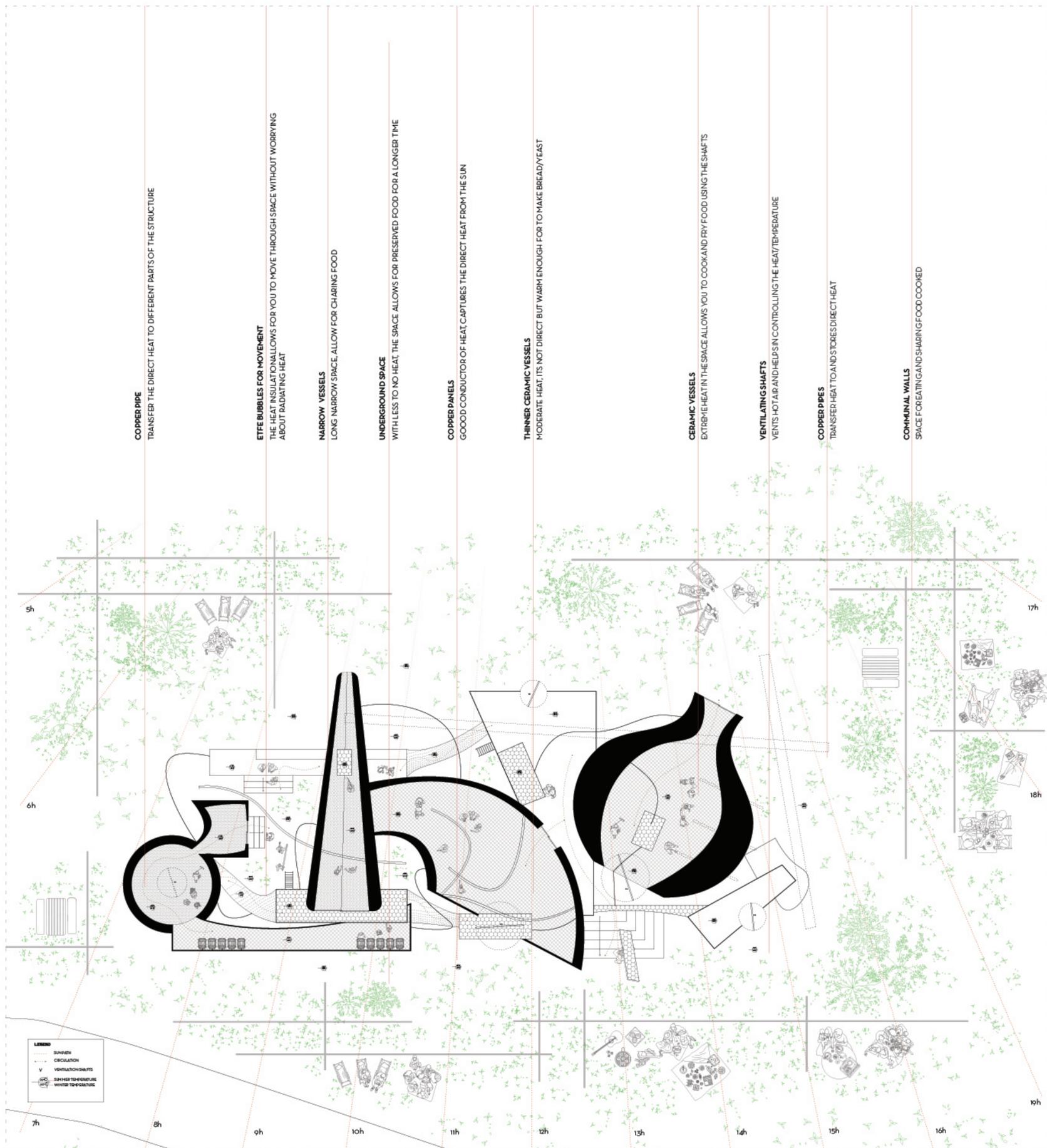
_Section - showing the temperature change

[Materials]

The section highlights heat and cold distribution through materials. Wood **deforms as it chars**, ideal for low-temperature cooking, while **ceramic withstands high heat**. Copper panels **trap and transfer heat** via pipes, while **naturally cool underground spaces** serve as preservation chambers for extended storage.



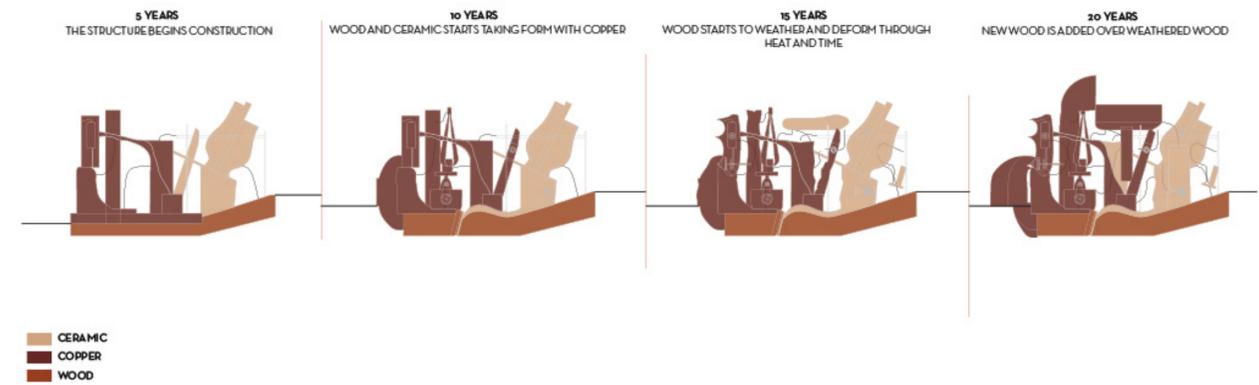
_Exploded Axonometric



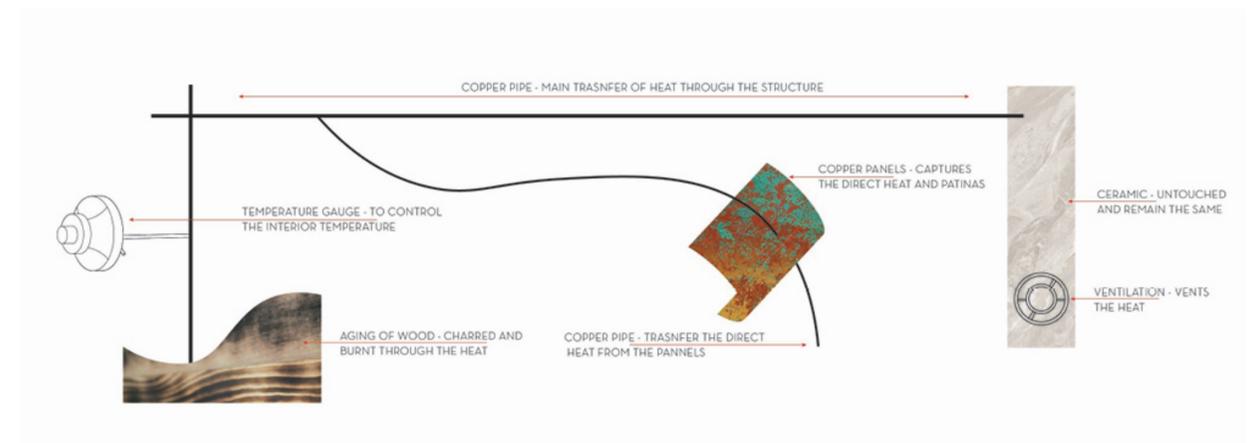
_Section - showing the temperature change

[Culinary, Time]

Material thickness affects cooking methods and heat retention, while built-in vents ensure airflow. ETFE tunnels insulate and enable movement without heat exposure. Over time, heat deforms materials, continuously transforming the space, highlighting the dynamic interplay of heat, materiality, and time.



_Diagram - evolution of the building



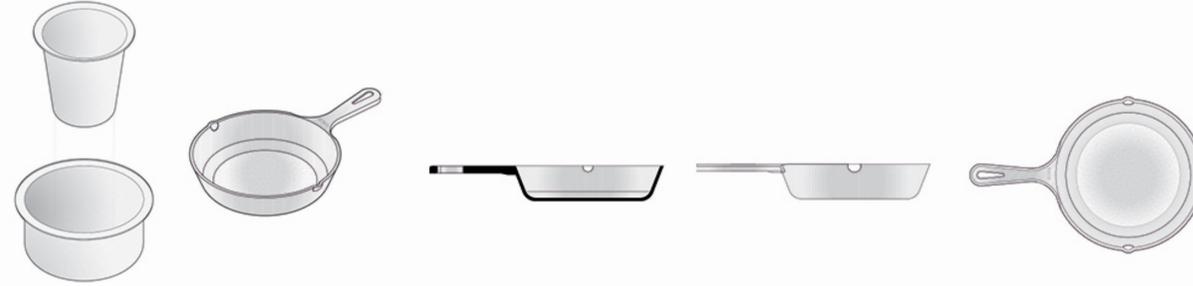
_Diagram - mechanism of the building

Design Process

DABARA



FRYING PAN



URULI



_Sampling - different utensils

CREATING FOOD CITY



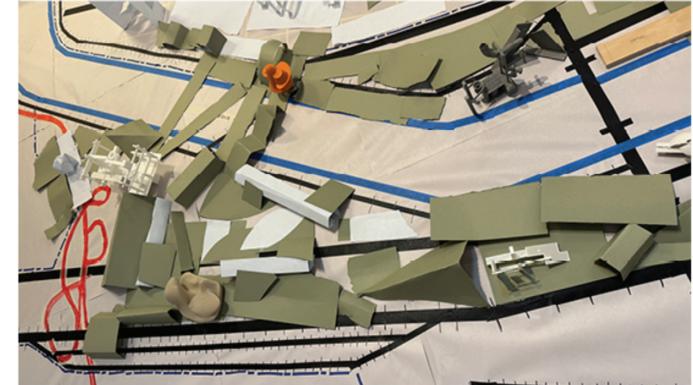
_Collaging the Sampling Plans of the entire Studio



_Collaging the Sampling Sections of the entire Studio



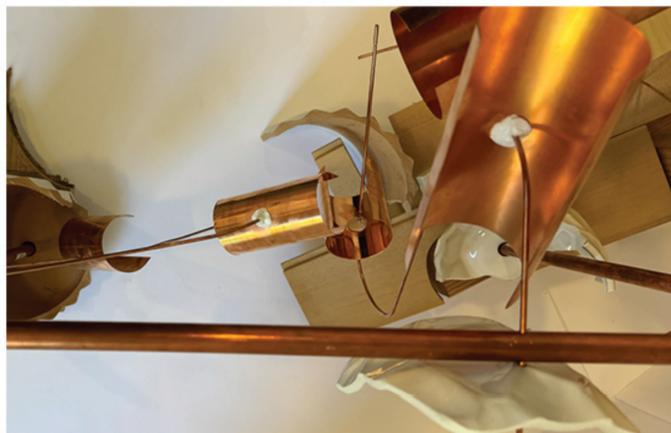
_Producing a collage section of your building from food city collage



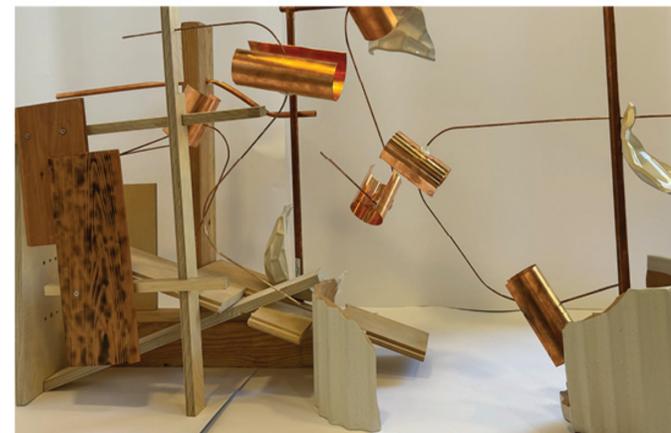
_Site mapping of food city



_Site mapping of food city



_Using the Collage to develop models



_Using the Collage to develop models



_Using the Collage to develop models

04 Horizon

Project program
Rehab center

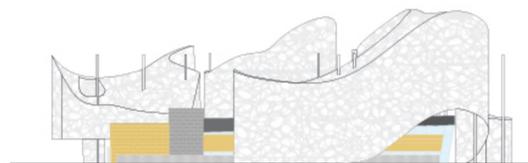
Location
Valley Plaza Library

Instructor
Hannah Hotrick

Year
2022

A new rehabilitation center is being added to the existing Valley Plaza Branch Library, designed to **support individuals** on their path to **recovery**. Located adjacent to a freeway, the site is in close proximity to a large unhoused population. This center serves as a transitional space—a **halfway point to stability**—helping individuals regain their footing. Recognizing that many may struggle with substance abuse, the facility **integrates detox services** with a learning center, providing both medical support and opportunities for personal growth.

The design is rooted in **biophilic principles**, fostering a healing environment to aid recovery. By creating a space that nurtures well-being, the center offers residents the resources and support needed to **rebuild their lives**.





_Concept vignette



_Exterior vignette



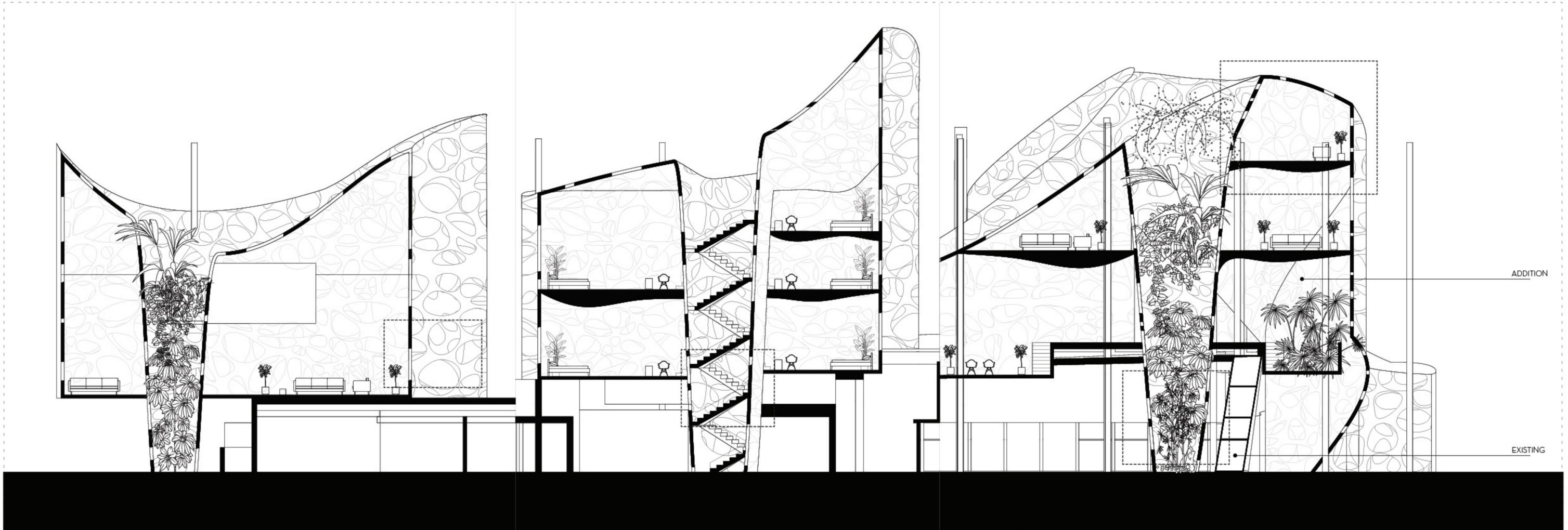
_Circulation vignette



_Interaction of two building



_Space vignette



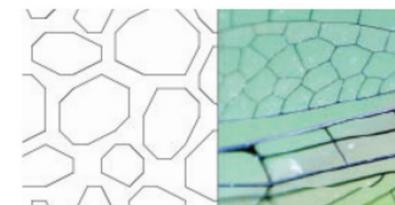
_Composite Section

[Old and New]

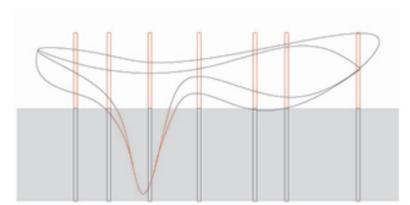
The new addition integrates with the existing structure through **extended columns** and a **sculpted roof**, seamlessly connecting past and present. The roof forms shafts for circulation and vegetation, while the façade, **inspired by natural patterns**, filters light throughout the day. Varying **column heights** shape diverse spatial experiences, reinforcing the dynamic relationship between old and new.



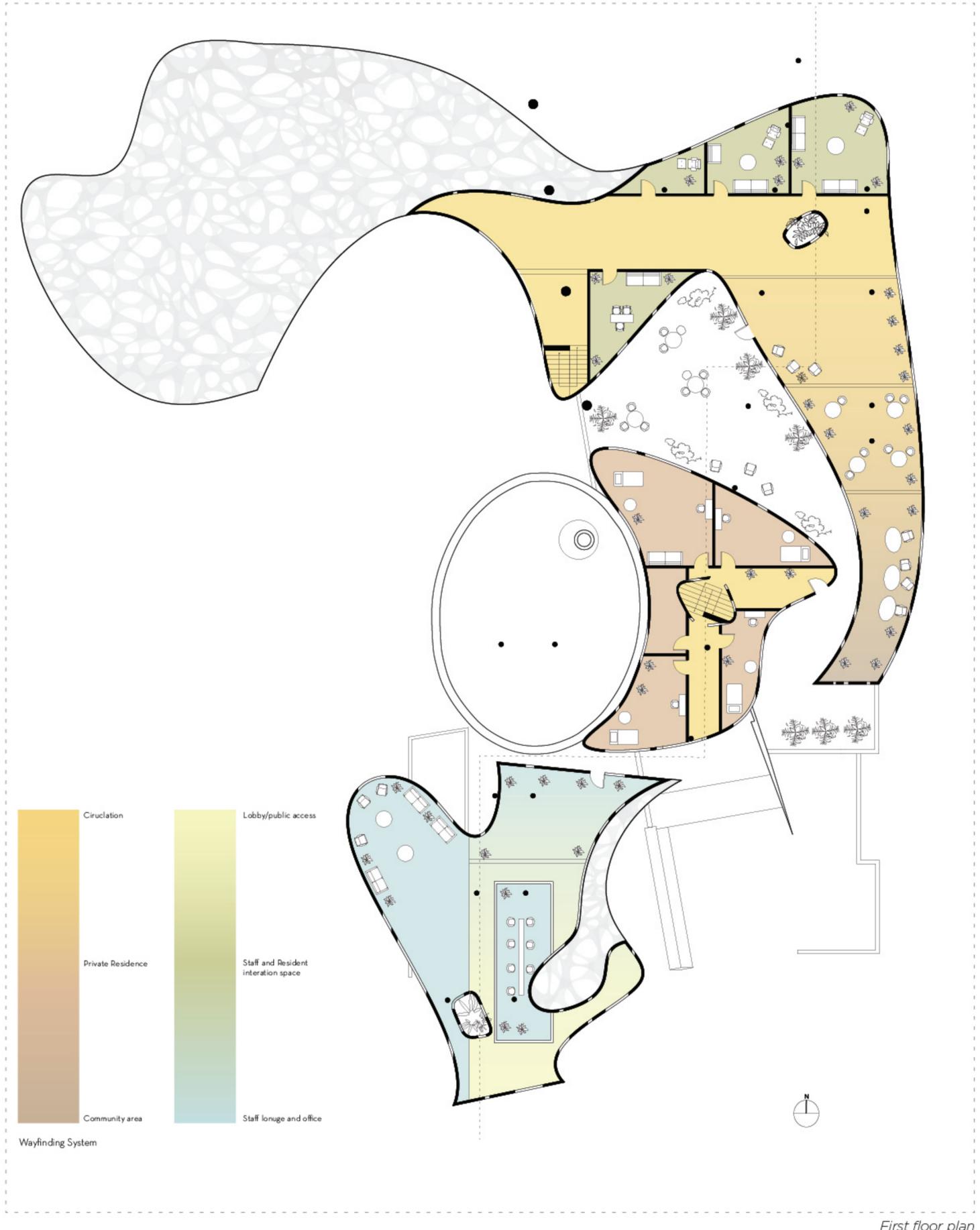
_Biophilic design



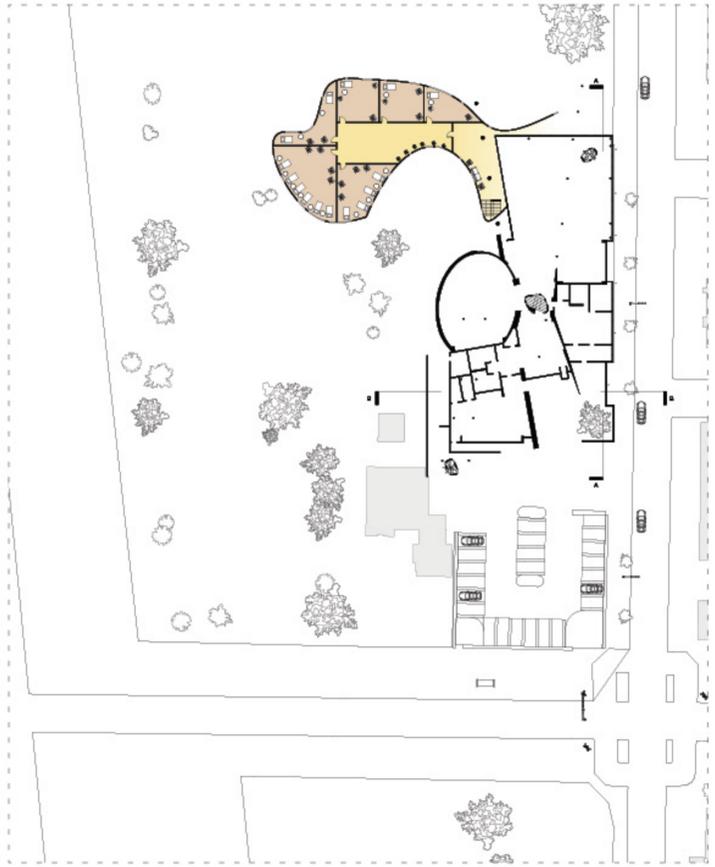
_Facade concept



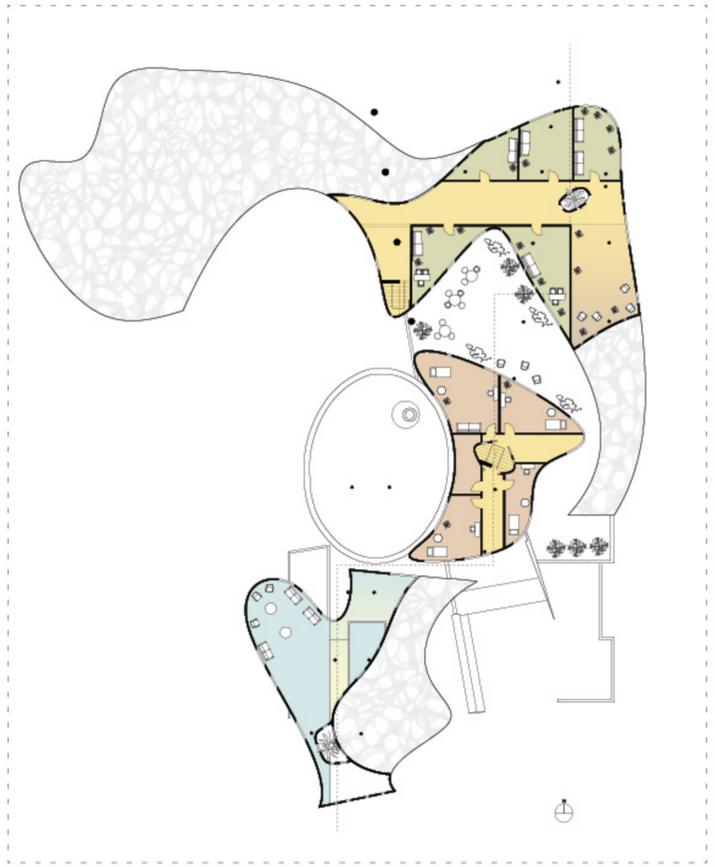
_Concept patti



_First floor plan



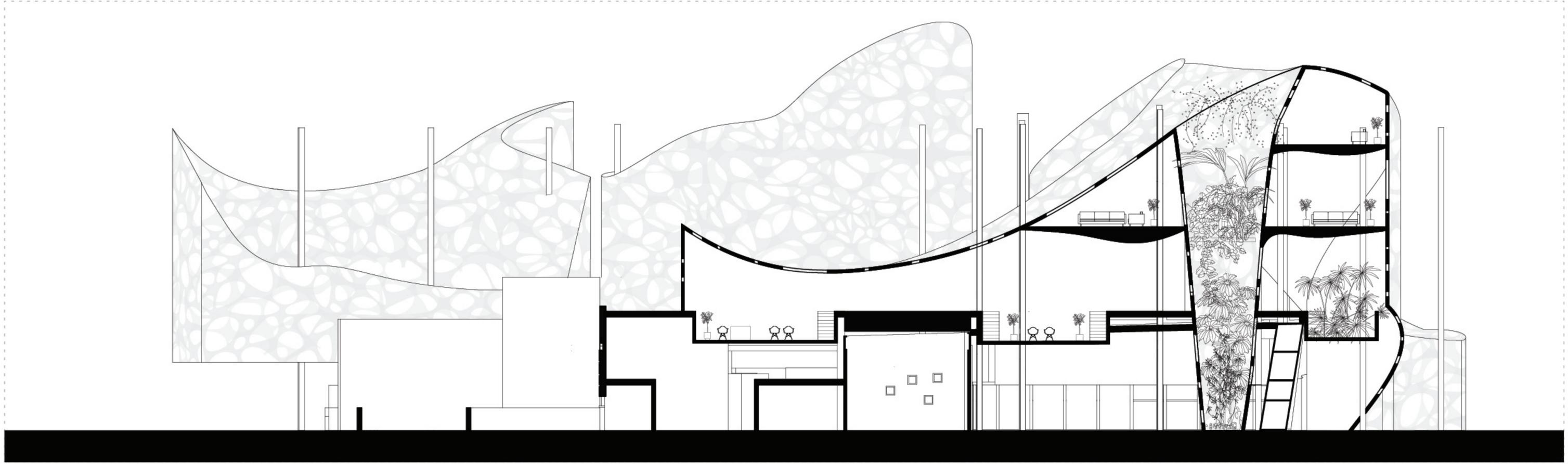
_Site plan



_Second floor plan

[Sense of Control]

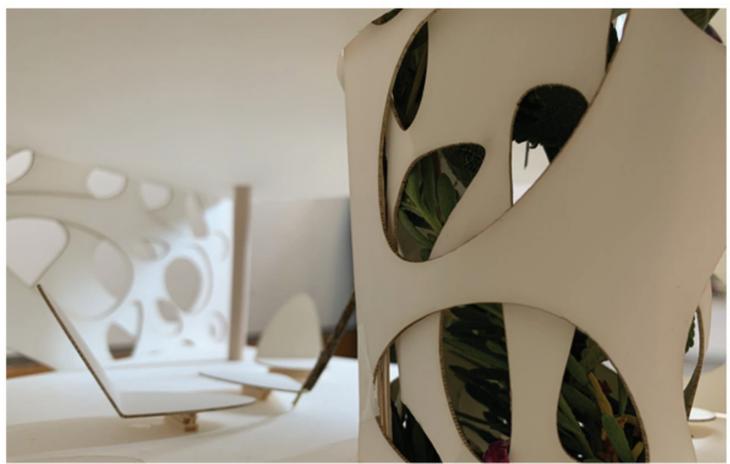
The design **balances interior and exterior spaces**, promoting fluid movement and a **sense of control**. Color guides **way-finding**, reinforcing spatial awareness, while **floor level variations** define functional areas. The organic addition wraps around the existing structure, **inverting its color scheme**—maintaining a **white exterior while bringing color inside** to enhance orientation, psychological comfort, and a stronger sense of control over the environment.



_Section AA



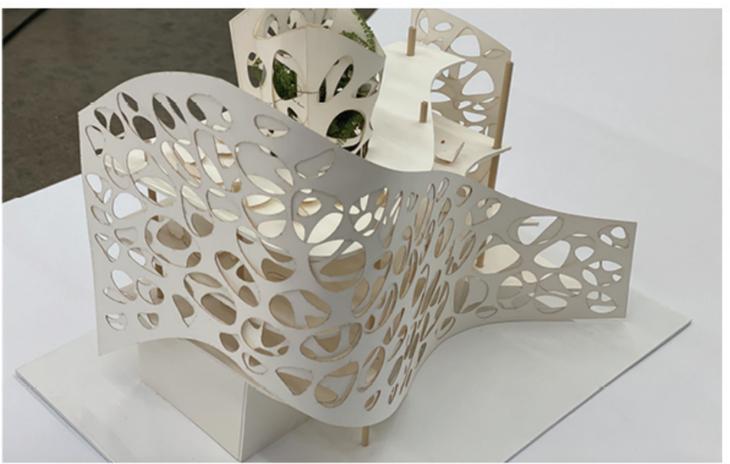
_Top view



_Interior view

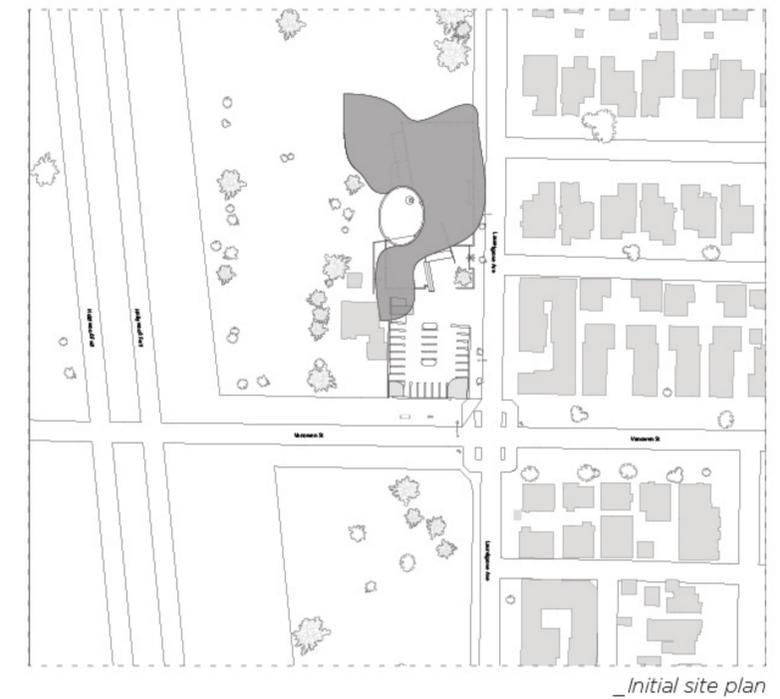
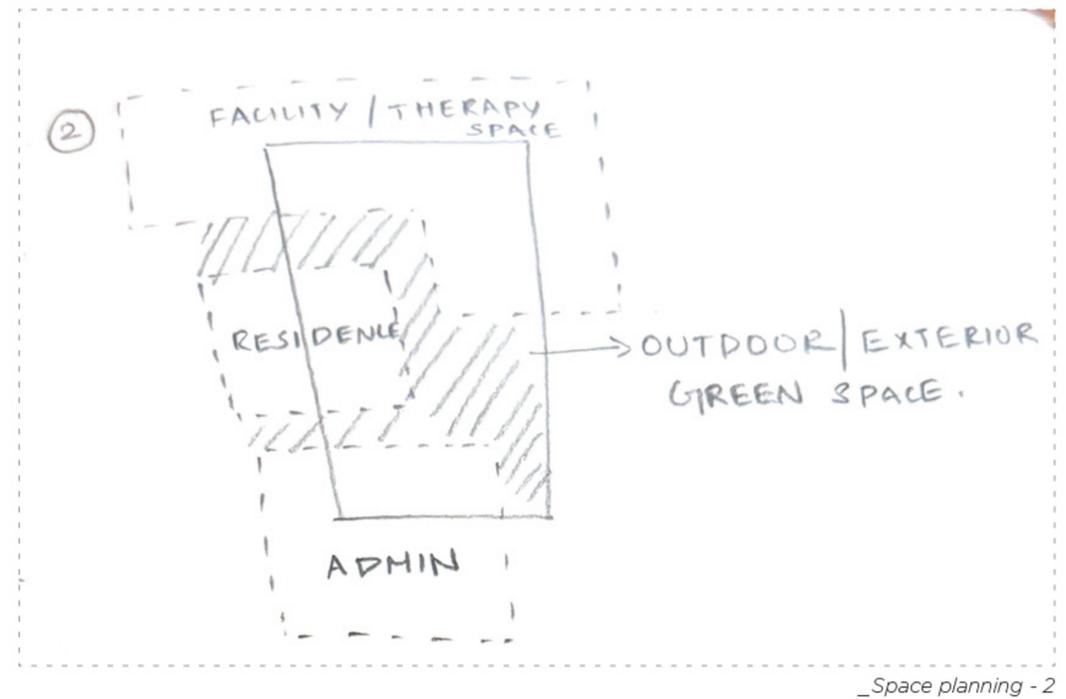
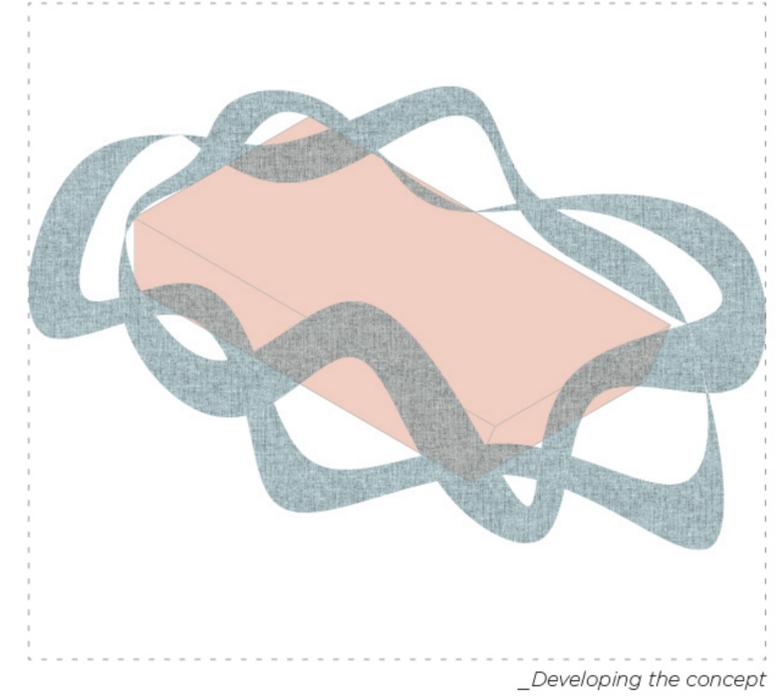
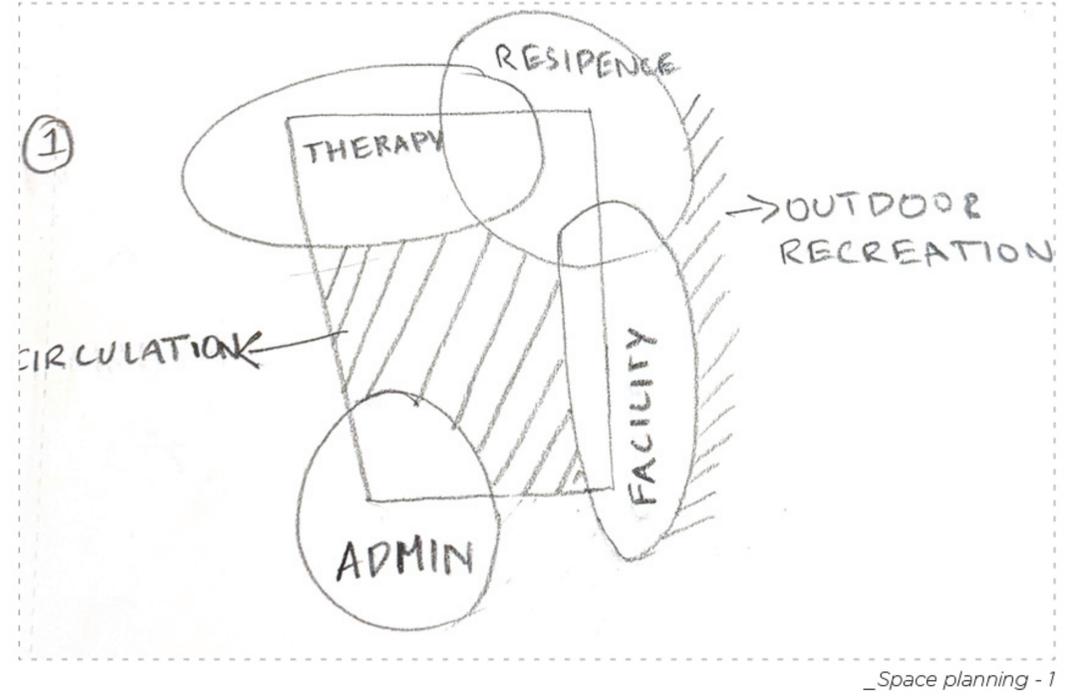
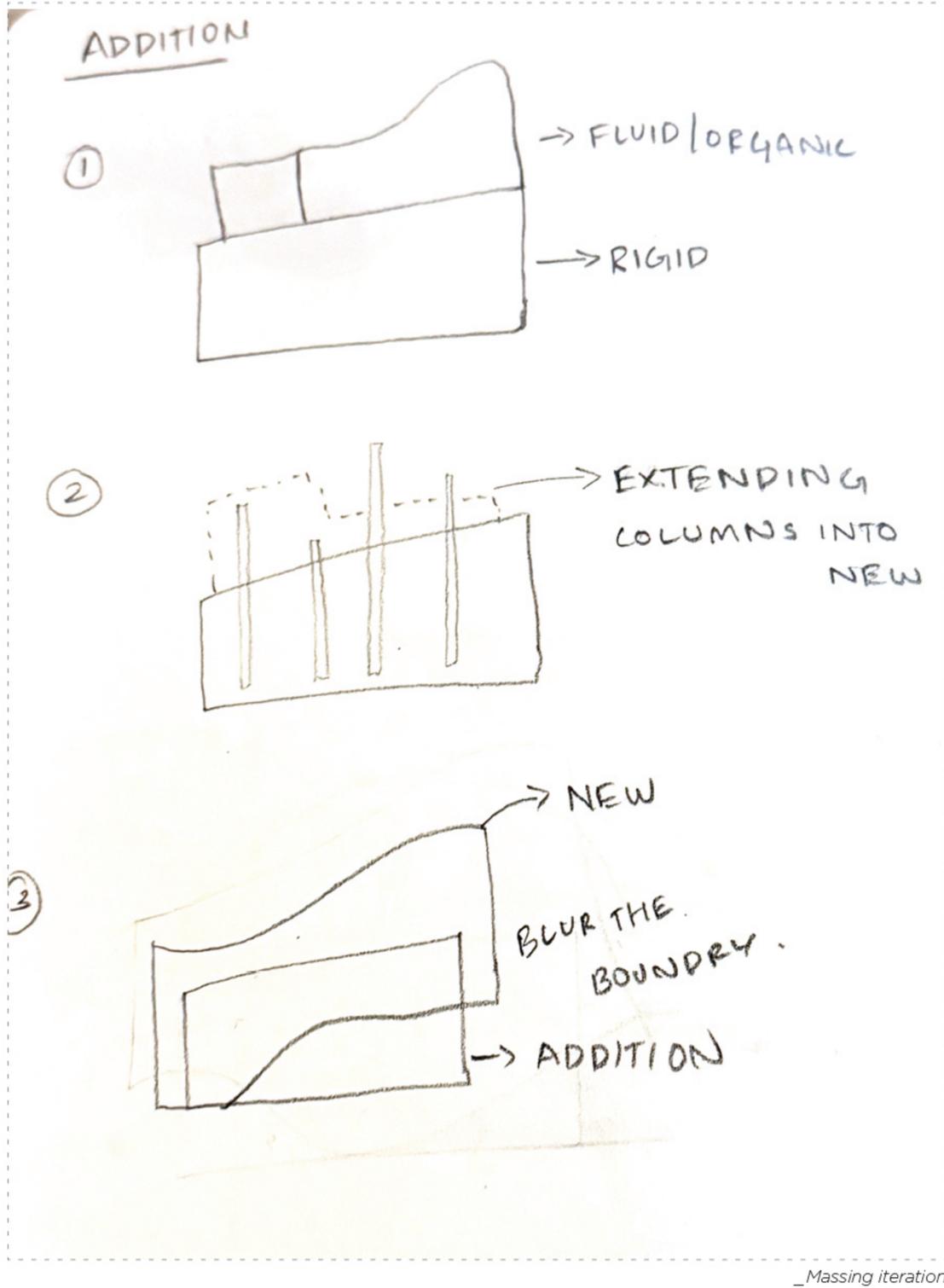


_Facade view



_Chunk model - exterior

Design Process



05

700 Palms

Project program
Residence

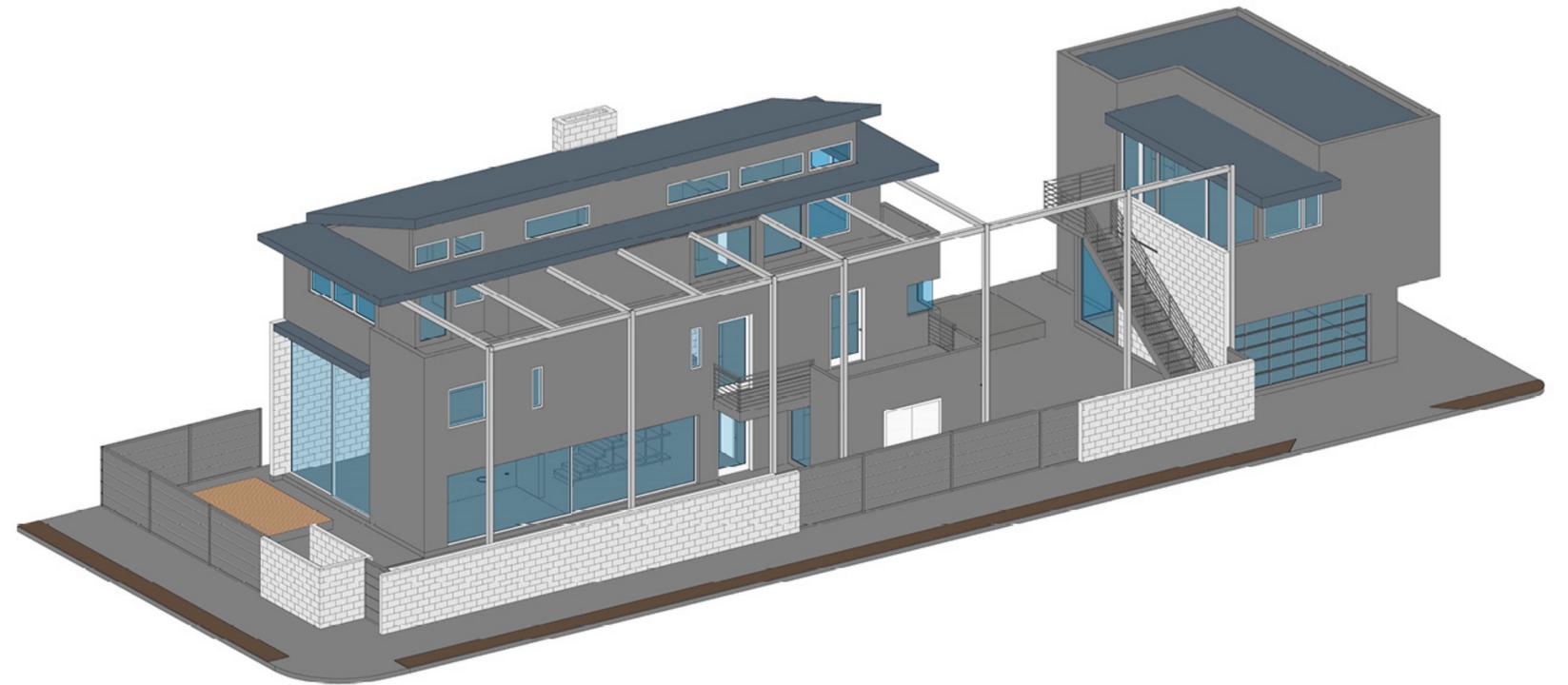
Location
Venice, CA

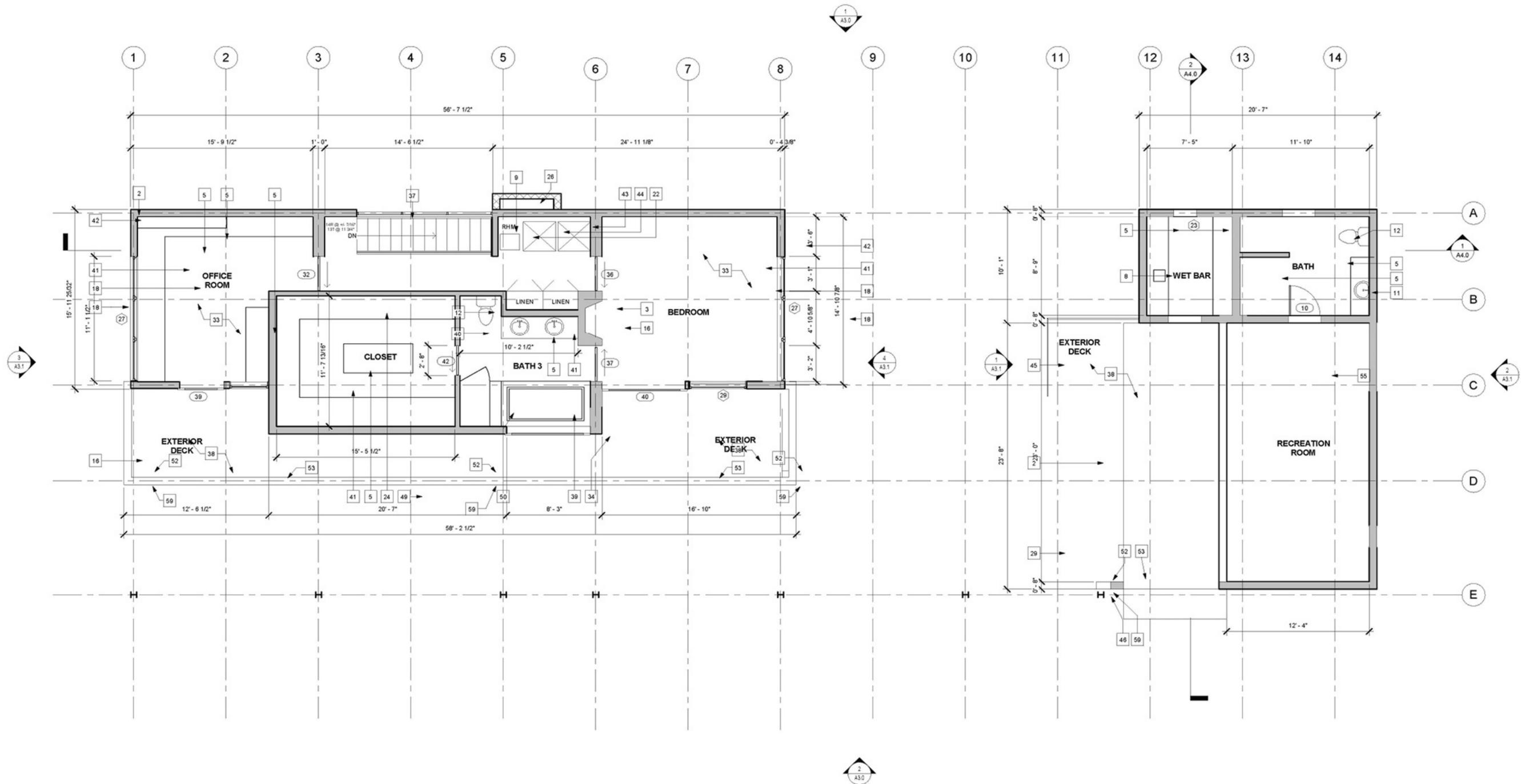
Instructor
Mark Owen

Year
2022

Using original plans and reference images, **700 Palms** was meticulously remodeled in **Revit**. This digital model created in Revit served as the foundation for generating **annotated plans, elevations, sections, and detailed drawings**. A comprehensive set of **construction documents** was then produced, leveraging Revit's capabilities to ensure precision and clarity in the design process.

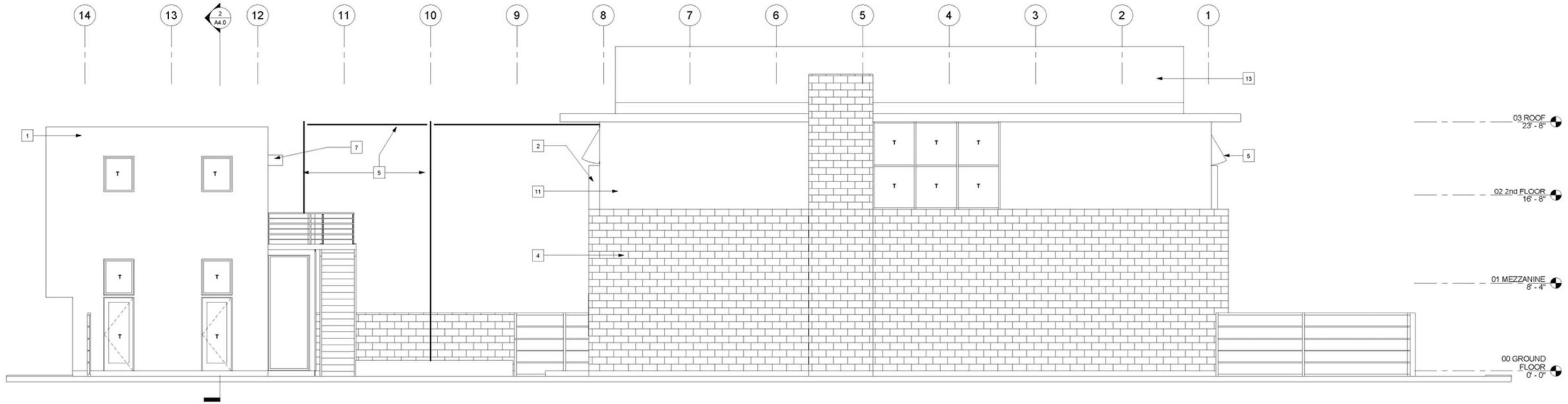
Following are samples of drawings from the produced construction drawing set.





_Floor Plan

- | | | | | | |
|--|---|---|--|--|---|
| <p>1. CONCRETE SLAB PER STRUCTURAL W/ SAWCUT JOINTS PER PLAN- ACID WASH AND SEAL</p> <p>2. 8" CMU WALL - 'ORCO' MEDIUM WEIGHT - WHITE SHOTBLASTED 1 SIDE - 1 END W/ TOP CAP - REFER TO ELEVATIONS</p> <p>3. PREFAB METAL FIREPLACE "MAJESTIC" SUPERHEARTH SH48 ICBO # ER-4837</p> <p>4. RAISED HARDWOOD FLOOR</p> <p>5. BUILT IN CABINETS. REFER TO INTERIOR ELEVATIONS</p> <p>6. DOUBLE STAINLESS STEEL SINK W/ GARBAGE DISPOSAL</p> <p>7. GAS RANGE W/ HOOD. REFER TO INTERIOR ELEVATIONS</p> <p>8. FLUSH MOUNT BAR SINK</p> | <p>9. BOILER FOR RADIANT FLOOR HEATING SYSTEM</p> <p>10. HOT WATER HEATER - REFER TO TITLE 24 FOR REQUIREMENTS - SECURE W/ APPROVED WATER HEATER STRAP PER CODE</p> <p>11. FLUSH MOUNT BATHROOM SINK</p> <p>12. LOW FLOW TOILET</p> <p>13. SWIMMING POOL</p> <p>14. WOOD STAIR</p> <p>15. SUSPENDED WALKWAY. REFER TO STAIR DETAILS</p> <p>16. CAST IN PLACE CONCRETE HEARTH. REFER TO DETAILS</p> <p>17. STEEL MANTLE. REFER TO INTERIOR</p> <p>18. LINE OF FLOOR ABOVE</p> <p>19. PAINTED STEEL COLUMN. REFER TO STRUCTURAL</p> | <p>20. BUILT IN CLOTHES DRYING RACK. REFER TO INTERIOR ELEVATIONS</p> <p>21. MAYTAG "NEPTUNE" SUPERSTACK WASHER AND DRYER</p> <p>22. LAUNDRY SINK. REFER TO INTERIOR ELEVATIONS</p> <p>23. FIBERGLASS SHOWER ENCLOSURE. REFER TO DETAILS</p> <p>24. BUILT IN STORAGE SHELVING. REFER TO DETAILS</p> <p>25. FORCED AIR UNIT. REFER TO MECHANICAL DRAWINGS</p> <p>26. FIREPLACE FLUE PER MANUFACTURER'S</p> <p>27. METAL ENCLOSURE PANEL. REFER TO DOOR SCHEDULE</p> <p>28. CAST IN PLACE CONCRETE STAIRS</p> <p>29. METAL STAIRS. REFER TO DETAILS</p> | <p>30. RETRACTABLE TABLE REFER TO DETAILS</p> <p>31. LINE OF SHELF BELOW</p> <p>32. MECHANICAL DUCT. REFER TO MECHANICAL DRAWING</p> <p>33. WOOD FLOOR</p> <p>34. STOVE VENT DUCT</p> <p>35. FIBERGLASS TUB / SHOWER ENCLOSURE</p> <p>36. PEDESTAL SINK</p> <p>37. SUSPENDED STEEL STAIR. REFER TO STAIR DETAILS</p> <p>38. "DEX-O-TEX" WATERPROOFING DECK MATERIAL ICBO #1338 LARR #2360 OR EQUAL</p> <p>39. TUB</p> <p>40. TOILET ENCLOSURE. REFER TO INTERIOR</p> | <p>41. LINE OF SOFFITE ABOVE</p> <p>42. LINE OF SHELF BELOW</p> <p>43. WASHING MACHINE</p> <p>44. GAS DRYER</p> <p>45. METAL GUARD RAIL. REFER TO DETAILS</p> <p>46. 4" COPPER RAIN GUTTER W/ 3" DOWNSPROUTS</p> <p>47. CLASS 'B' BUILT UP BITUMINOUS ROOFING W/ GRAVEL BALLAST</p> <p>48. GREENHECK CENTRIFUGAL EXHAUST FAN</p> <p>49. STEEL BEAMS, PAINTED. REFER TO STRUCTURAL</p> <p>50. SEAMLESS GLASS SHOWER ENCLOSURE W/ INTEGRATED SEAT. REFER TO INTERIOR ELEVATIONS</p> <p>51. APPROVED CHIMNEY SPARK ARRESTOR</p> | <p>52. ROOF DRAIN</p> <p>53. CRICKET</p> <p>54. PARAPET / GALV. MTL. FLASHING. REFER TO DETAILS</p> <p>55. FRAME IN ROOF OPEN ONLY</p> <p>56. PRECISION LADDER ROOF HATCH FOR USE WITH "SUPER SIMPLEX" DISAPPEARING STAIRWAY, SEE DETAILS</p> <p>57. DOWNSPROUT</p> <p>58. RADIANT FLOORING CONTROL MANIFOLD</p> <p>59. OVERFLOW SCUPPER/ STORM DRAIN</p> <p>60. DRILLED SLEEVE FOR FUTURE STEEL POST</p> <p>61. FLOOR MOUNTED POWER OUTLET</p> <p>62. BRONZE POCKET DOOR</p> |
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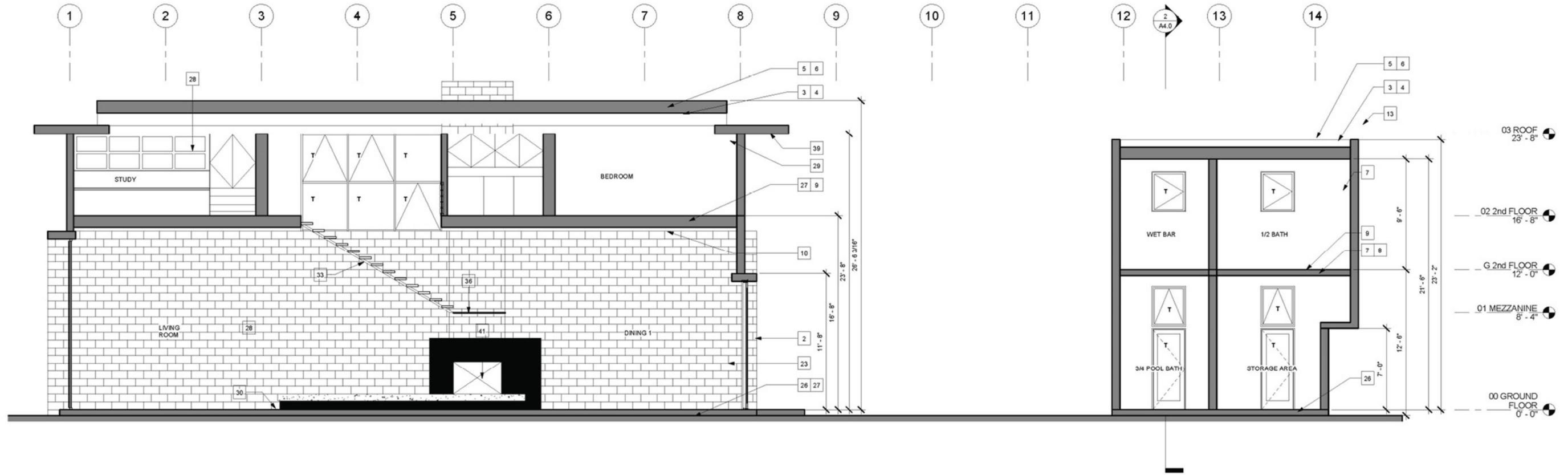
_Elevation

- 1. FLEXIROCK "SMOOTH FINISH" STUCCO OVER FLEXIROCK TYPE "F" BASECOAT - PAINTED
- 2. 12 GA COLD ROLLED STEEL SPLATE
- 3. CLEAR ANODIZED ALUMINUM WINDOW SYSTEM. REFER TO WINDOW SCHEDULE
- 4. 8" CMU "ORCO" MEDIUM WEIGHT- WHITE SHOTBLASTED 1 SIDE - 1 END W/ TOP CAP - REFER TO ELEVATIONS

- 5. EXPOSED STEEL STRUCTURAL MEMBER - PAINTED - REFER TO STRUCTURAL
- 6. METAL GUARDRAIL - PAINTED - REFER TO DETAILS
- 7. COPPER FASCIA
- 8. DOOR - REFER TO DOOR SCHEDULE
- 9. COPPER DOWNSPROUT
- 10. GALV. METAL CHIMNEY FLUE- PER MANUFACTURER'S REQUIREMENTS

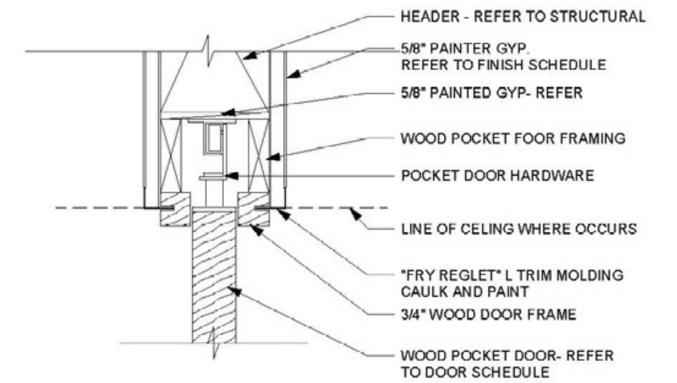
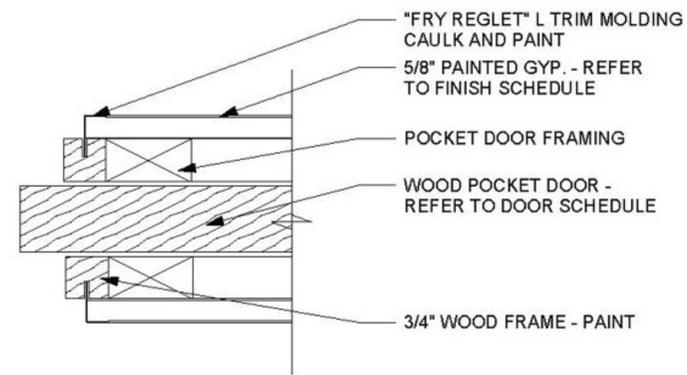
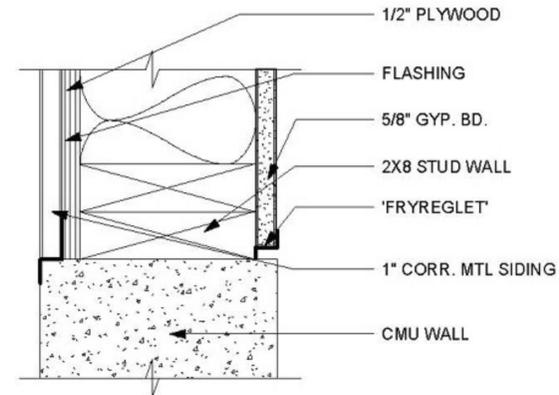
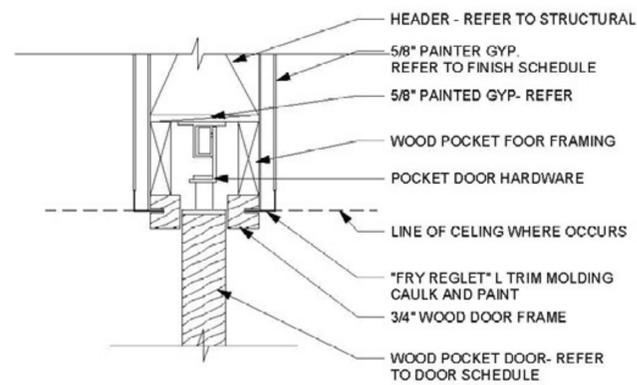
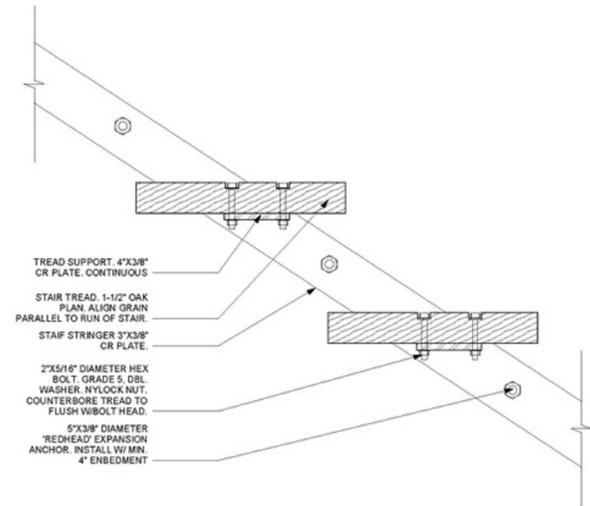
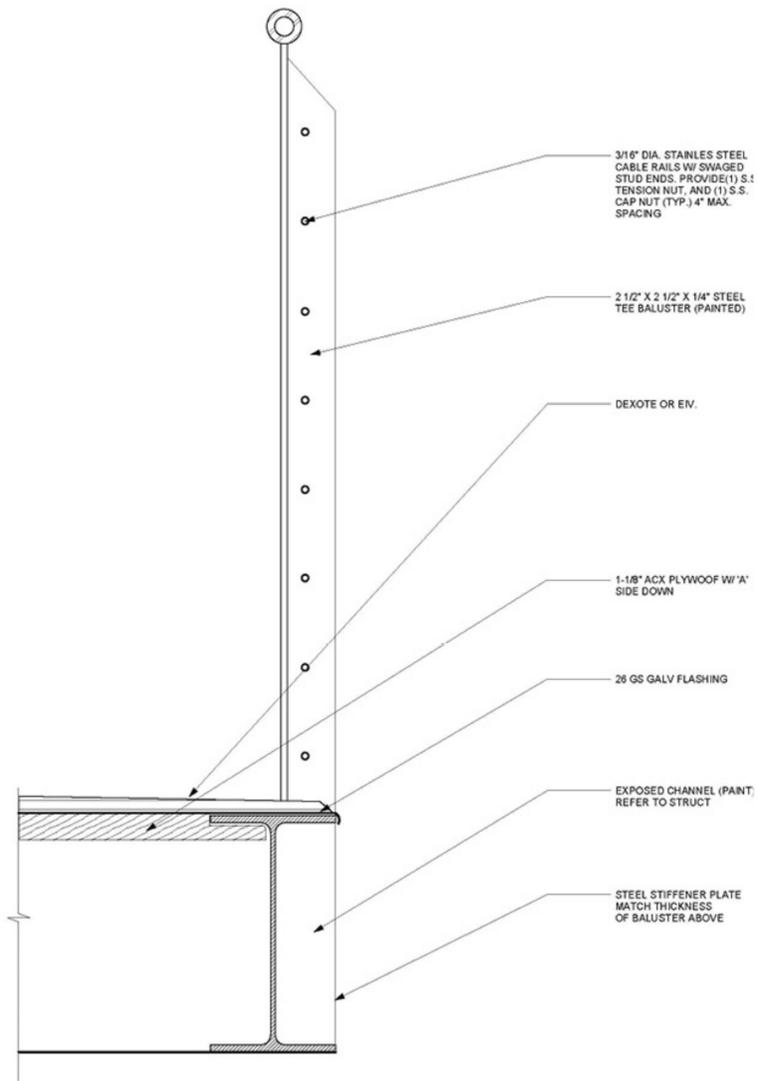
- 11. "BOARDWALK" ENGINEERED WOOD SIDING
- 12. FINISH GRADE
- 13. CLEAR ANODIZED ALUMINUM BREAK METAL
- 14. GALV. METAL WALK SCREED
- 15. CLEAR ANODIZED ALUMINUM ROLL-UP DOOR- REFER TO DOOR SCHEDULE
- 16. GREENHECK CENTRIGUGAL EXHAUST FAN- MODEL CUE- 095

- 17. APPROVED IN - FLUE SPART ARRESTOR
- 18. CLASS "B" BUILT -UP BITUMINOUS ROOFING WITH
- 19. APPROVED FIREPLACE CHIMNEY FLUE PER MANUFACTURERS REQUIREMENTS- GALVANIZED- W/ SPARK ARRESTOR
- 20. METAL SLIDING DOOR - PAINTED REFER TO DOOR DOOR SCHEDULE
- 21. METAL (LOWER RUNG)



_Section

- | | | | | | | | |
|---|---|--|--|--|---|---|--|
| 1. GALVANIZED METAL FLASHING | 6. CLASS 'B' BUILT-UP BITUMINOUS ROOFING W/ GRAVEL BALLAST | 11. METAL SLIDING DOOR. REFER TO DOOR SCHEDULE | 17. SEAMLESS GLASS SHOWER ENCLOSURE W/ INTEGRATED SEAT. REFER TO INTERIOR ELEVATIONS | 23. METAL DOOR REFER TO DOOR SCHEDULE | 27. CAST IN PLACE GYPCRETE "THERMAFLOOR W/ RADIANT FLOOR HEATING TUBES. REFER TO MECHANICAL | 32. FIREPLACE FLUE PER MAN. REQUIREMENTS | 39. 6" COPPER GUTTER W/ DOWNSPROUT REQUIREMENTS |
| 2. 8" CMU WALL- ORCO MEDIUM WEI. WHITE SHOTBLASTED 1 SIDE- 1 END W/ TOP TO ELEVATIONS | 7. R- 19 BATT INSULATION @EXTERIOR WALLS (TYP.) AND BETWEEN GARAGE AND LIVABLE SPACES ABOVE | 12. ROLL UP GARAGE DOOR. SCHEDULE | 18. SUSPENDED WALKWAY | 24. EXTERIOR FINISH. REFER TO ELEVATIONS | 28. BUILT IN CABINETS.REFER TO INTERIOR ELEVATIONS | 33. SUSPENDED STAIR. SEE DETAILS | 40. "DEX-O-TEX" WATERPROOFING DECK ICBO #1338 LARR #2360 |
| 3. ROOF JOIST. REFER TO STRUCTURAL | 8. FLOOR JOIST. REFER TO STRUCTURAL | 13. METAL HANDRAIL. REFER TO DETAILS. | 19. HOOD. REFER TO INTERIOR ELEVATIONS | 25. WOOD STAIR | 29. EXPOSED STEEL STRUCTURAL MEMBER. PAINTED. REFER TO STRUCTURAL | 34. SUSPENSION CABLE. SEE STAIR DETAILS | 41. PREFAB METAL FIREPLACE "MAJESTIC" SUPERHEARTH SH48 ICBO #ER - 4837 |
| 4. R-30 BATT INSULATION TYP. @ ALL ROOF CEILINGS | 9. PLYWOOD FLOOR SHEATHING. REFER TO STRUCTURAL | 14.METAL STAIR. REFER TO STAIR DETAILS. | 20. STOVE. REFER TO INTERIOR ELEVATIONS | 26. CONCRETE SLAB PER STRUCTURAL W/ SAW CUT JOINTS PER PLAN. ACID WASH AND SEAL. | 30. RAISED HARDWOOD FLOOR | 35. PLYWOOD GUARDRAIL. SEE STAIR DETAILS. | 42.METAL WINDOW. REFER TO WINDOW SCHEDULE |
| 5. RIPPER PER STRUCTURAL | 10. EXPOSED WOOD STRUCTURAL MEMBER SANDBLAST AND SEAL. REFER TO STRUCTURAL | 15. CAST IN PLACE CONCRETE STAIR | 21. ISLAND. REFER TO INTERIOR ELEVATIONS | 27. IN SLAB RADIANT FLOOR HEATIN TUBES PER MANUFACTURERS SPECIFICATIONS. REFER TO MECHANICAL | 31. GREENHECK CENTRIFUGAL EXHAUST FAN- MODEL CUE- 095 | 36. SUSPENDED WALKWAY. SEE STAIR DETAILS | |
| | | 16. TUB | 22. COUNTER. REFER TO INTERIOR ELEVATIONS | | | 37. MANTLE | |
| | | | | | | 38. CAST IN PLACE CONCRETE HEARTH | |





THANK YOU

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