

PORTFOLIO

ARCHITECTURE GRADUATE STUDENT WORK

TIMOTHY OCHOLA

VOLUME 2

'I have always loved putting things together since I was little. My form of play was centered around building things and surely enough I have nurtured that creative trait .I currently enjoy doing the same to solve riddles of space and the built environment in teams and with communities.Architecture curates the way we live and I am honored to be a part of it.'

TIMOTHY OCHOLA
Architectural Designer

timochola.com
timochol@iastate.edu

RESUME

WORK EXPERIENCE

2025-Summer

Smithgroup

Dallas, Tx
Role: Architectural Intern
Assisted in presentation creation, space design, architectural visualization and construction documentation.
Used Affinity, Sketchup, Bluebeam, Revit, Rhino and Enscape in my daily process.

2024-Present

Iowa State University

Role: Graduate Assistant and Architecture Teaching Assistant for College of Design.
Assisted in Poster Creation, Video Recording and documentation and exhibition installations. Assisted in Teaching History of American Cities.

2017-2023

Landmark Designs Limited.

Role: Landscape Architect
Used Sketchup, Revit, Photoshop, Illustrator and Indesign for Project Development and Presentation.

2017-2023

Kobo Trust Studios.

Role: Fine Artist
Worked in Acrylics and Oils for painting.
Used fibreglass and resin for sculpture modelling and Blender for digital modelling.

2022

St. Andrews School Turi.

Role: Art and Design Technology Teacher
Taught painting and drawing both traditional and digital.
Taught crafting skills in the Wood and Metal Fabrication Shop.

2021-2022

School of Architecture and Building Sciences,

Department of Landscape Architecture at Jomo Kenyatta University of Agriculture and Technology.
Role: Teaching Assistant.
Taught Architectural Communication I

2017-2018

Transafrica Landscapes Company.

Role: Landscape Architect.
Used Archicad, Sketchup and Lumion for project presentations and did supervisory site visits.

EDUCATION

2023-Present

Iowa State University

Masters in Architecture GPA 3.96

2013-2017

Jomo Kenyatta University of Agriculture and Technology

Kenya
Bachelor of Landscape Architecture.
First Class Honors.

LANGUAGE

ENGLISH
SWAHILI
LUO

ORGANIZATIONS

NOMAS (National Organization of Minority Architects)
Student Member

AWARDS/EXHIBITIONS

2026

Nobody Knows Anything, Solo Exhibition, Iowa State University. Curated by Nathalie Frankowski

2025

An Incomplete Atlas of Provisional Assemblages, Venice Biennale Sessions, Venice, Italy

2026 **Kocimski Prize Nomination**

2024

Merit Award, Identity Art Exhibition

SOFTWARE SKILLS

Adobe Suite	■ ■ ■ ■ ■
Affinity Suite	■ ■ ■ ■ ■
Autodesk Revit	■ ■ ■ ■ ■
ArchiCad	■ ■ ■ ■ ■
Sketchup	■ ■ ■ ■ ■
Rhino & Grasshopper	■ ■ ■ ■ ■
Enscape	■ ■ ■ ■ ■
Lumion	■ ■ ■ ■ ■
Twinmotion	■ ■ ■ ■ ■
3DS Max	■ ■ ■ ■ ■
Bluebeam	■ ■ ■ ■ ■
D5 Render	■ ■ ■ ■ ■



URBAN SPONGE



A DANCE IN CONGO



THE SANCTUARY



DES MOINES



ART CENTER



GACUANA



XENOGENIC FUSION



FINE ART

01

URBAN SPONGE

ACSA COTE Competition Submission

Location: Des Moines Iowa

Status: Year 2 Graduate Student Work, 2025

Course: ARCH 6010

Supervisor: Ulrike Passe

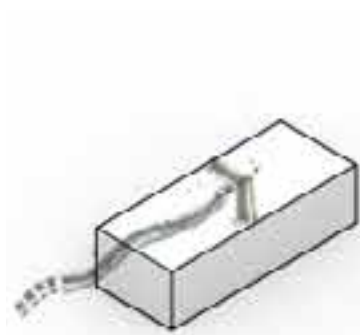
Urban Sponge is a net-positive mixed-use development that reimagines sustainable urban living by integrating architecture, landscape, and community in the proximity of Gray's Lake in Des Moines, Iowa (41°34'06.5"N 93°38'06.6"W). The City of Des Moines proposed a challenge of designing a mixed-use residential building that would accommodate residents that commute to the city, reduce the amount of hardscape on the site, and protect the landscape in case of unexpected floods.

A defining feature of the design is the integration of a constructed wetland landscape with native plants at the site's base. This ecosystem addresses flooding and storm-water by naturally absorbing runoff, turning a climate challenge into a regenerative asset. Moreover, permeable paving within the site ensures a sponge-like effect for the landscape.

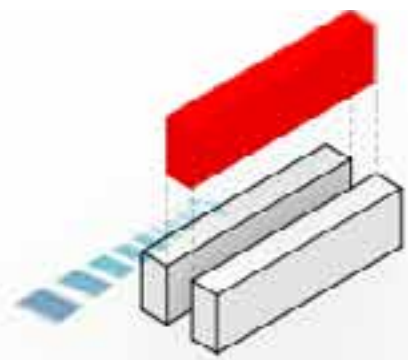
Passive strategies, including North-South solar orientation, operable windows, and stack ventilation complement these technologies. R-30 Stud walls, rooftop solar panels of 25% efficiency, and a Variable Air Volume Ventilation system support the building's net-positive energy goals. Interior public spaces are 84 % daylit, fostering social interaction and reducing reliance on electrical lighting.



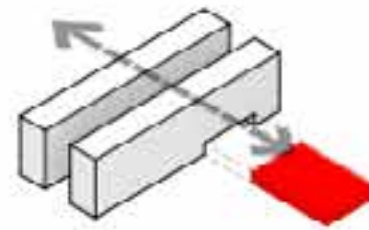




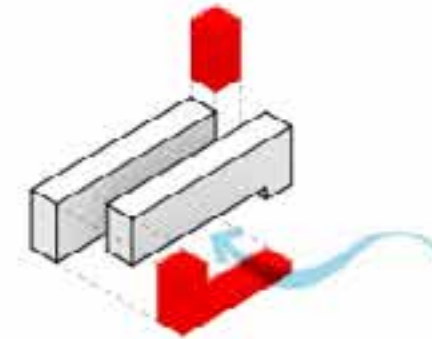
Orient



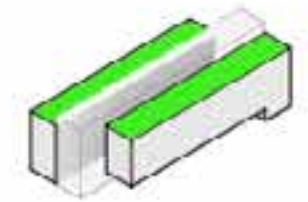
Slice



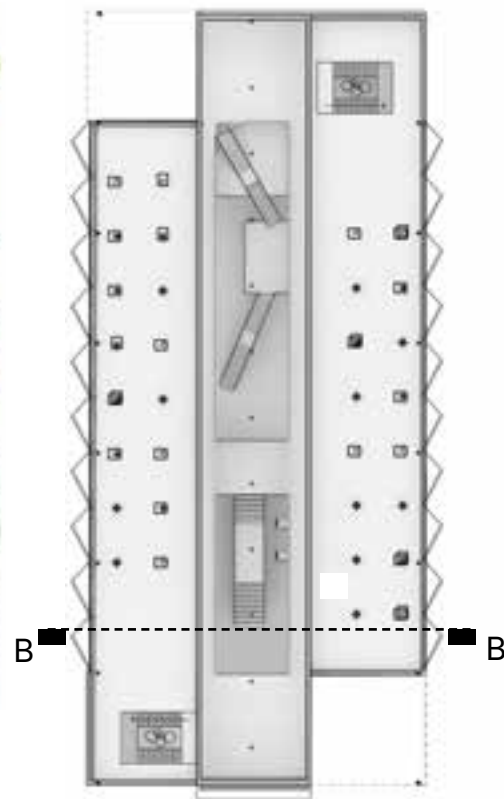
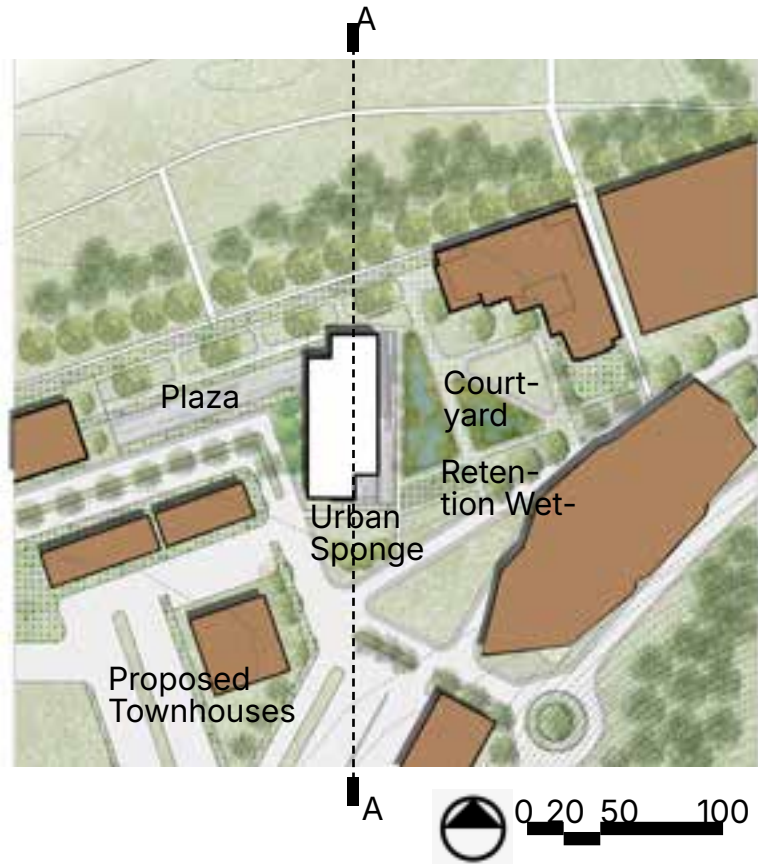
Open



Clip ends

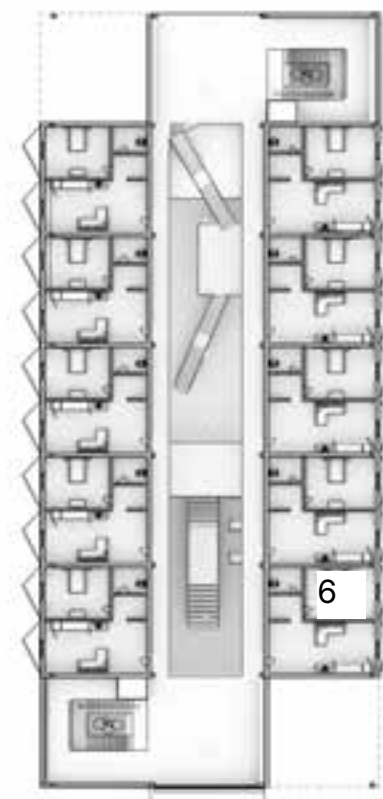


Green roof



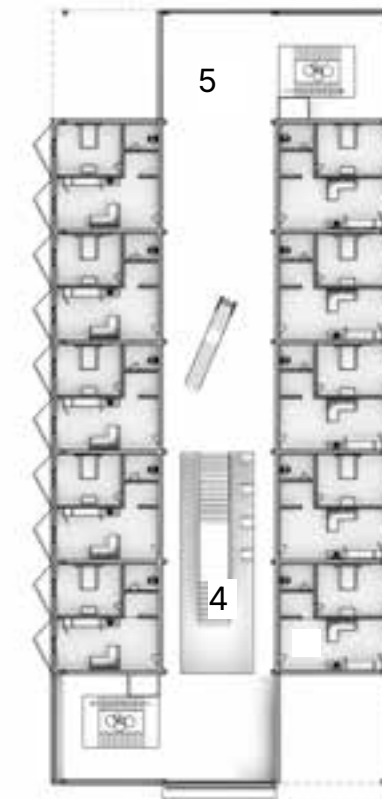
Green Roof and Atrium

- 1. Gym
- 2. Living Room



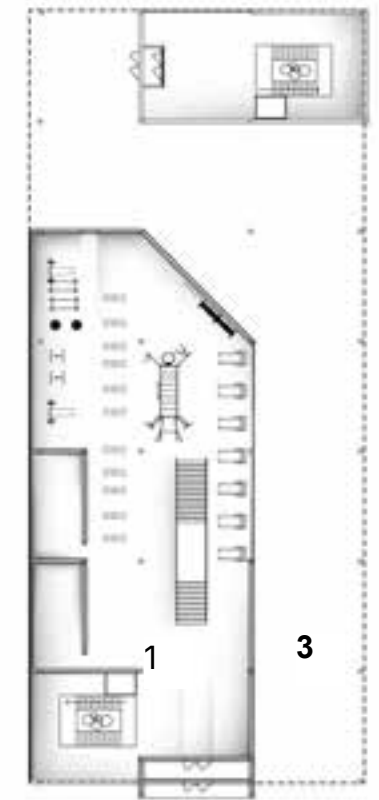
Third and Fourth Floor

- 3. Pavillion
- 4. Active Stair
- 5. Lounge
- 6. Bedroom



Second Floor

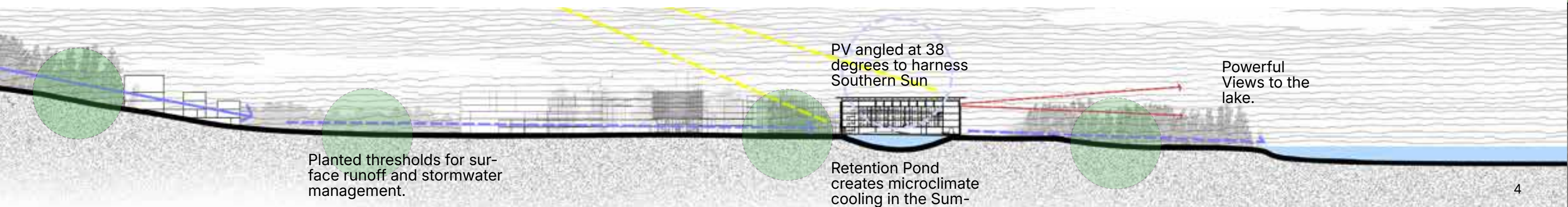
- 7. Green Roof



Ground Floor



SECTIONAL SITE STORMWATER STRATEGY



DESIGN FOR ECOSYSTEMS

By prioritizing native plant species throughout the green roof, plaza, and detention pond landscape, Verdant Rise actively restores local habitat and supports pollinators, birds, and beneficial insects. Native species like River Birch and Indian Warrior are adapted to the local climate, reducing the need for irrigation, fertilizers, and pesticides. This fosters a resilient micro-ecosystem that coexists with urban density, while reinforcing biodiversity and ecological continuity within the city.



P1 River Birch
(betula raddeana)



P2 Indian Warrior
(andropogon gerardii)



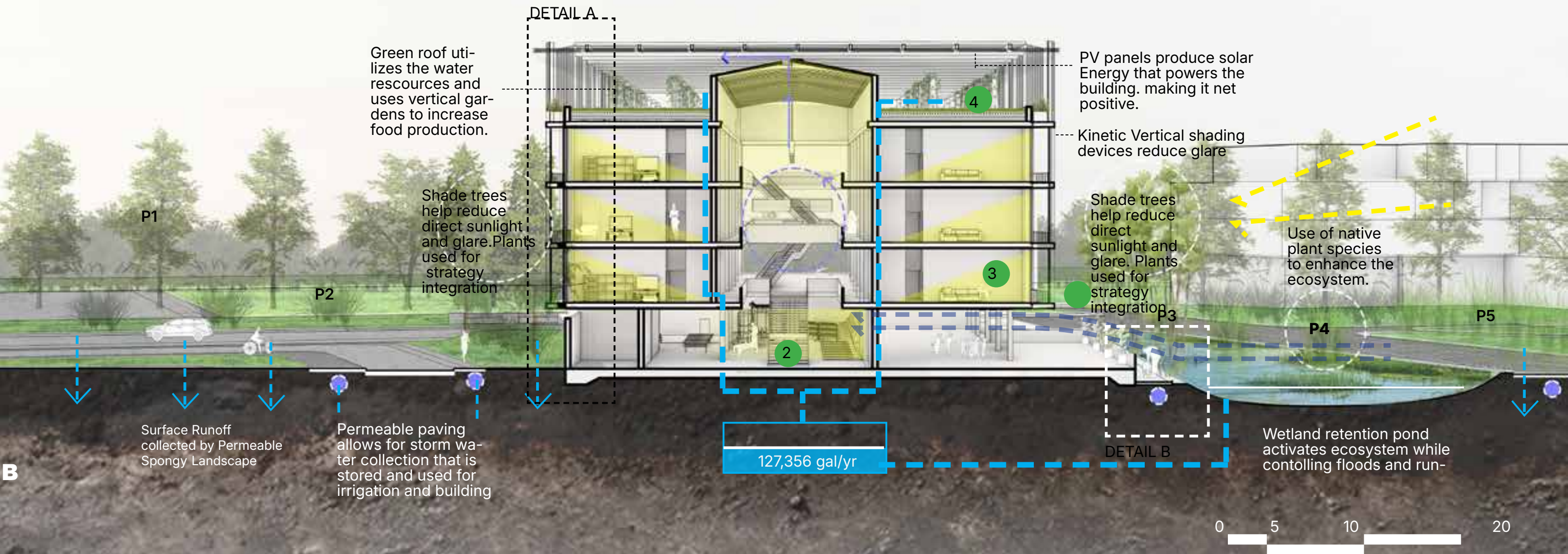
P3 Bottonbush grande



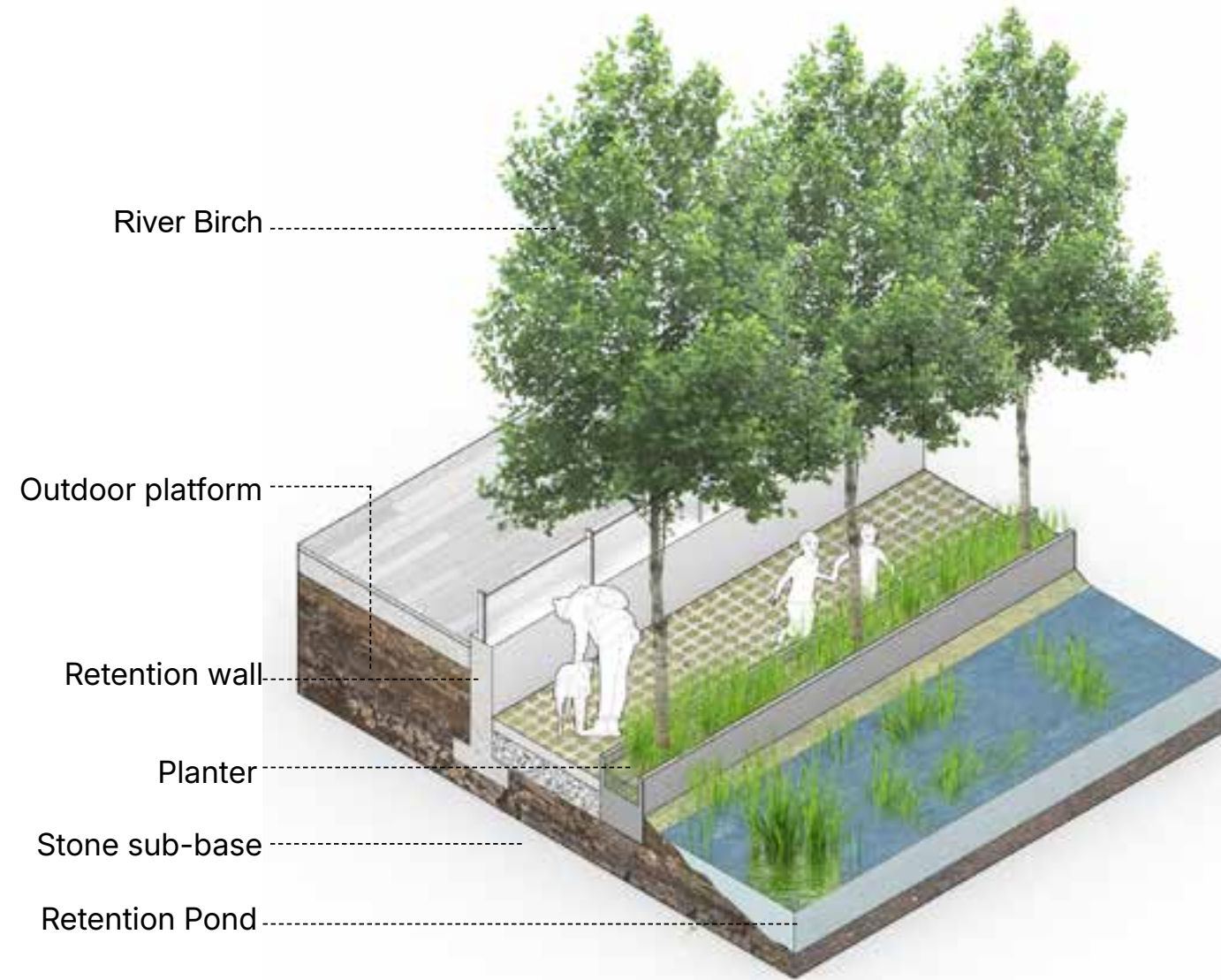
P4 Joe Pye Weed
(eutrochium purpureum)



P5 Half Pint
(panicum virgatum)



DETAIL B
Softscape and Hardscape Intergration



DETAIL A

PV panel louvres angled at 42 degrees facing Southern Sun.

Steel Grid Support

Green Roof

Planter

Kinetic Vertical Shading Fins

4

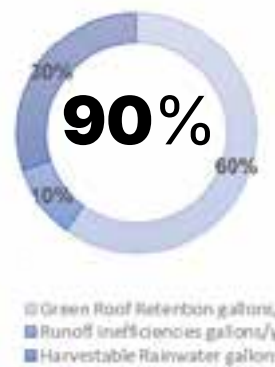
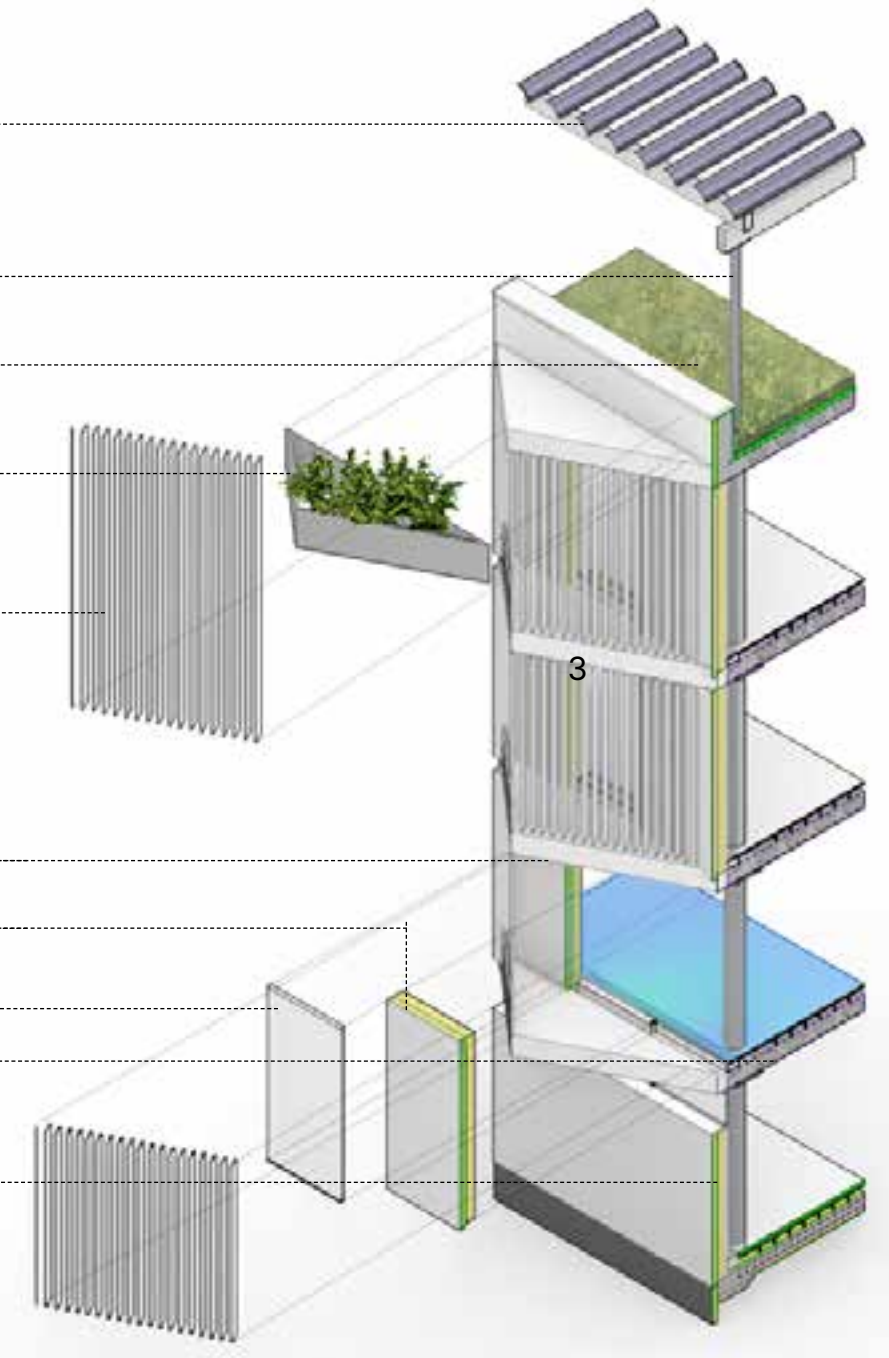
Precast Concrete

Stud Walls R 30

Tripple glazing R8

Voided Concrete Slab

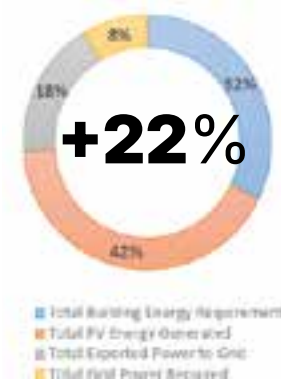
Insulation



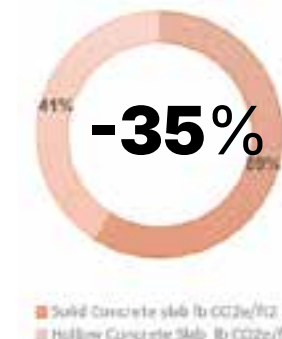
DESIGN FOR WATER
424,519 gal/yr collection from green roof . **254,711 gal/yr** is used on the greenhouse. **127,356 gal/yr** stored in an underground cistern and is used for grey water systems . During overflows the cistern empties into the retention pond.90% of rain-fall on roof is harvested



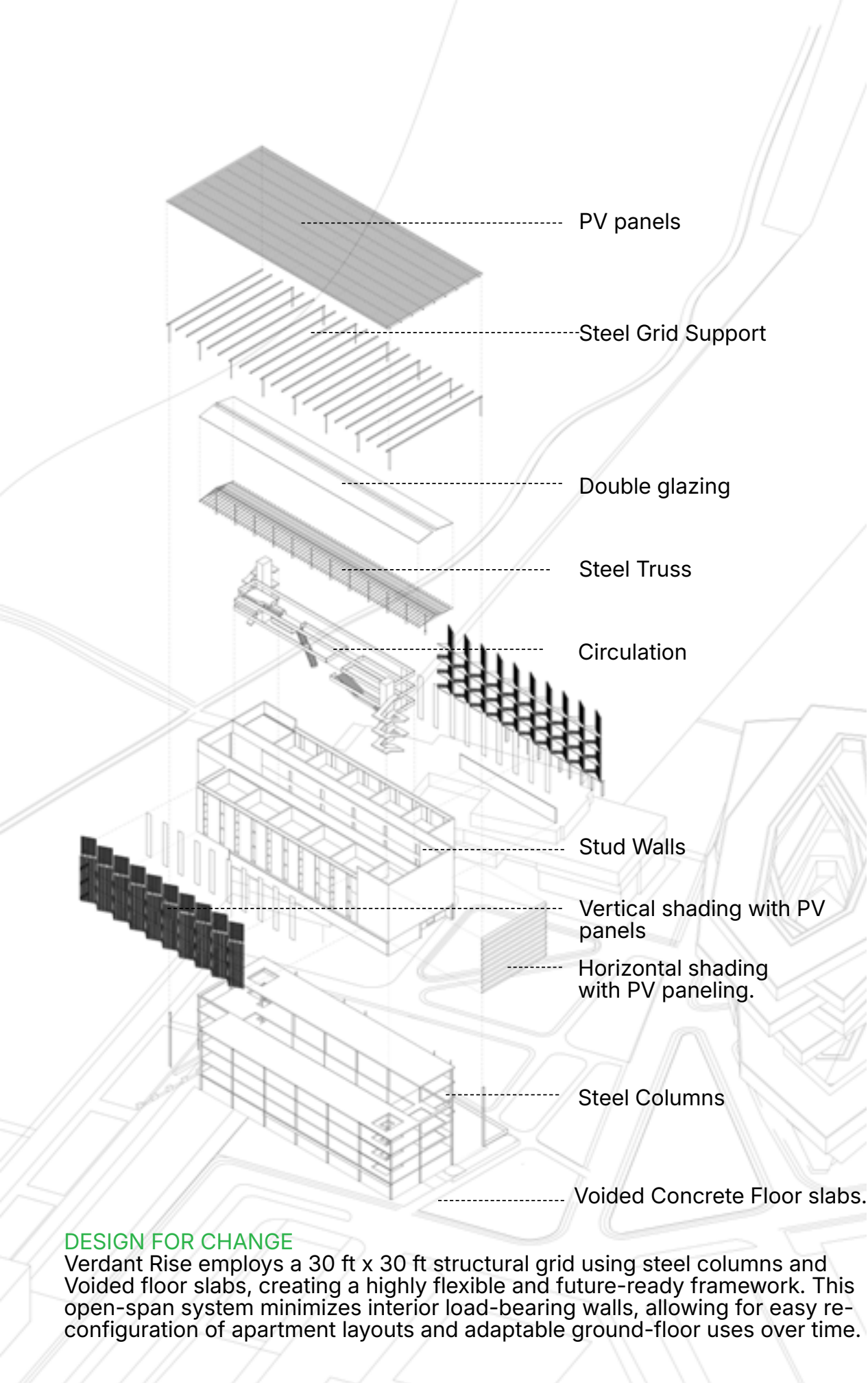
DESIGN FOR ENERGY
The building achieves an Energy Use Intensity (EUI) of **65 kWh/m²/year**, significantly outperforming the national baseline of **283 kWh/m²/year** for mixed-use buildings. This represents a **77%** reduction in energy consumption.performance without compromising comfort or functionality.



The PV Panels Produce **32,043 KWh/Yr** of energy in total per year that exceeds the building consumption energy need which is **24,895 KWh/Yr** . This confirms the building to be **22%** net positive. The PV panels are adjustable louvres and operable for maintainance .



MATERIAL STRATEGY, DESIGN FOR RESOURCES
Building Operational Carbon - **4.51 lb CO2e/ft²/year** Recycled Steel columns provide strength and flexibility for open floor plans and future program changes. Voided slab technology reduces the volume of concrete required, lowering the building's embodied carbon by **35%** .



DESIGN FOR CHANGE

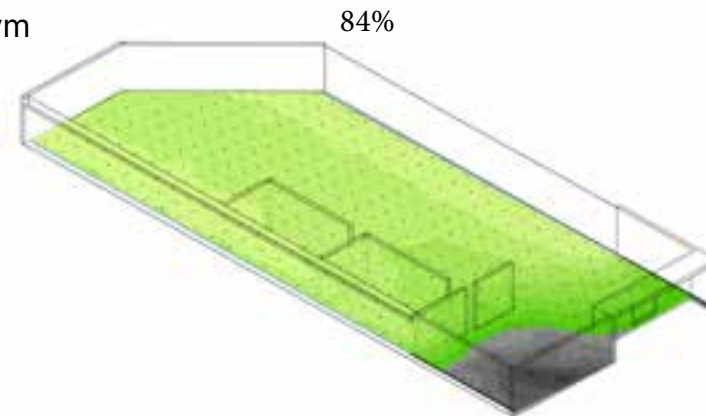
Verdant Rise employs a 30 ft x 30 ft structural grid using steel columns and Voided floor slabs, creating a highly flexible and future-ready framework. This open-span system minimizes interior load-bearing walls, allowing for easy re-configuration of apartment layouts and adaptable ground-floor uses over time.

Daylighting

West Facing Apartment

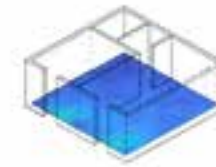
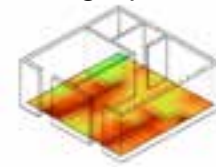


Gym



Radiation

West Facing Apartment

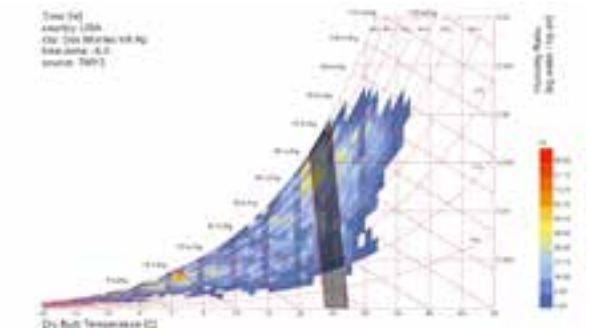


Daylighting Averages **86%** reducing lighting loads with shading elements allowing effective glare control.

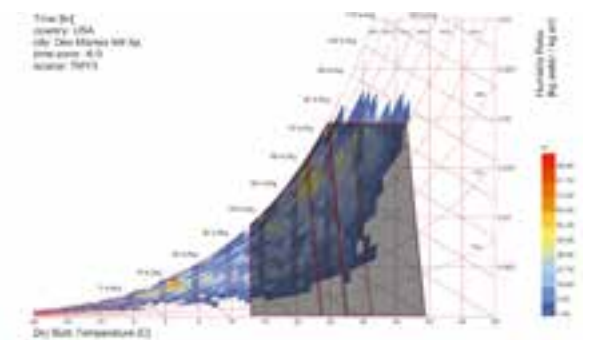
DESIGN FOR WELLNESS

Kinetic Vertical Fins ensure there is a balance between glare and daylight as shown above. The shading device greatly reduces discomfort as illustrated below.

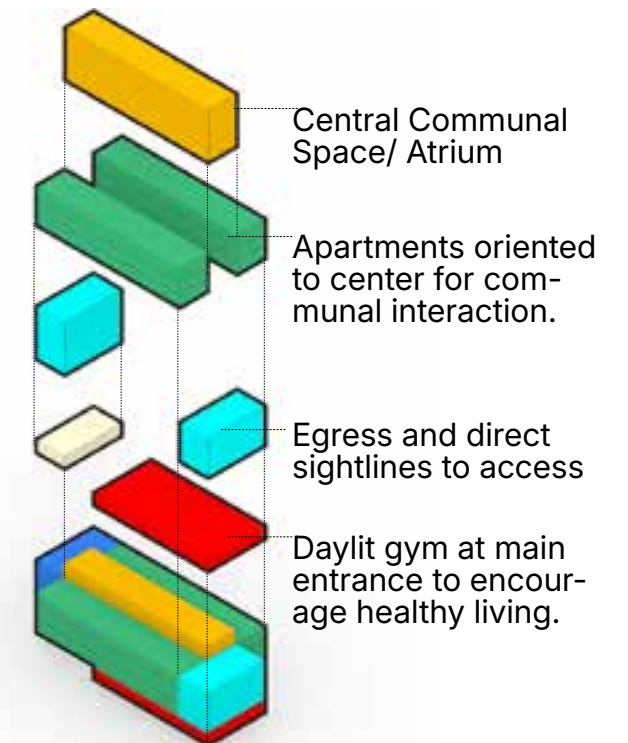
Before Passive Strategies



After Passive Strategies



INTERGRATED PROGRAM



The primary building program consists of multi-family residential units of **900 ft²** each sandwiching a central atrium. A fully R-8 glazed **10,800 ft²** gym and lobby occupy the ground floor, activating the street corridor and inviting community engagement. Public and semi-public interior spaces, such as lounges, integrated exercise landings, and communal vertical gardens cover **25,500 ft²**.



1 DESIGN FOR DISCOVERY
 This wetland landscape, framed by a stepped podium and permeable paving, becomes a dynamic site for discovery. The gently terraced steps invite visitors to sit, observe, and engage with the changing ecology of the wetland. The site is developed to a walkability index of 11 and is 83% Bikable.



2 DESIGN FOR WELLNESS
 The ground-floor gym acts as an accessible wellness anchor for residents and the surrounding community, encouraging daily movement and fostering social interaction. Its fully glazed façade brings in ample daylight (84%) and connects users visually to the outdoors, reinforcing circadian rhythms and reducing stress. Operable sliding doors and passive ventilation in the summer ensure fresh air access.



3 DESIGN FOR ECONOMY
 The residential units are one bedroom apartments meant for young professionals and couples. with simple interior 6" CLT partition walls and a R-30 Stud wall, spaces and quickly assembles and the floor flates allow for retrofitting in the case of change of building use in future. The 900 sq ft apartments are also affordable 700-1000\$ for rent in Des Moines area. (\$0.98/sq ft)



4 DESIGN FOR COMMUNITY
 The green roof retains up to 60% per storm event about 254,711 gallons/year, supporting both horizontal and vertical planting systems through passive irrigation. The vertical gardens not only increase the total planting surface area but also provide shading, wind buffering, and microclimate regulation across the rooftop.

02

A DANCE IN CONGO

Kocimski Prize 2026 Nomination

Location: New Orleans, Louisiana

Status: Year 3 Graduate Student Work, 2025

Course: ARCH 6030

Supervisor: Merate Barakat

A Dance in Congo proposes a Community Dance Center that channels the historic and cultural legacy of Congo Square into architecture. The building interprets rhythm, improvisation, and communal gathering as spatial and ecological strategies, translating the syncopated energy of New Orleans performance traditions into form and program. Circulation paths echo off-beat rhythms, while studios, rehearsal spaces, and gathering areas blur boundaries between performers, audiences, and environment. Programmatic zones support learning, performance, and intergenerational cultural exchange, fostering inclusivity and participation.

Ecological resilience is conceived as a syncopated system: responding to flooding, ventilation, and sound through adaptive materiality and environmental design.

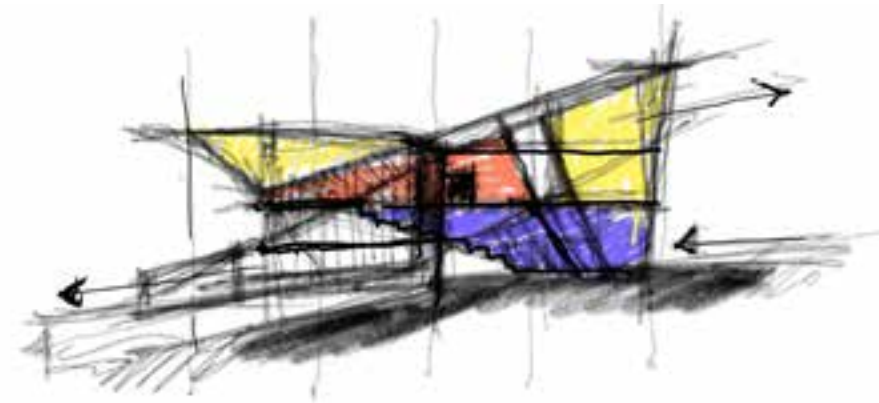
The architecture balances human activity and ambient sound, creating spaces where movement, music, and community coexist. By embedding cultural memory and embodied improvisation, the Community Dance Center becomes both a tribute to New Orleans' rhythmic heritage and a living, participatory site of creativity, care, and resilience.



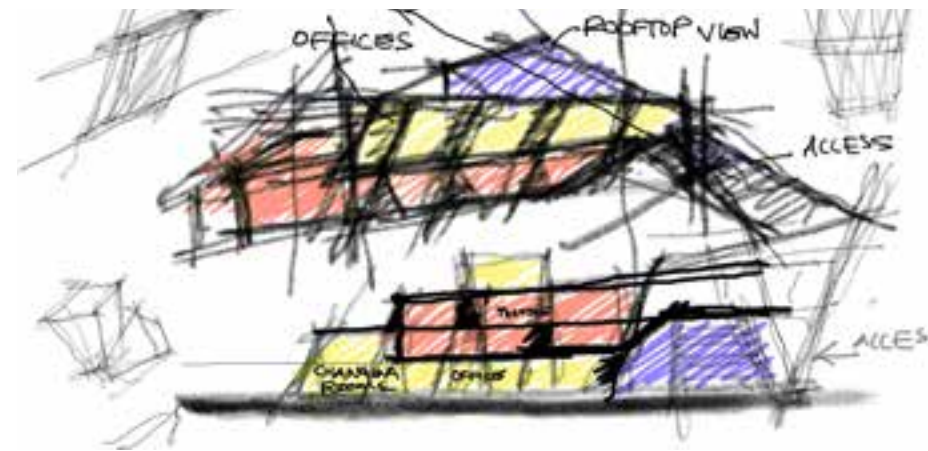
PROJECT POSTER (Mixed Media)



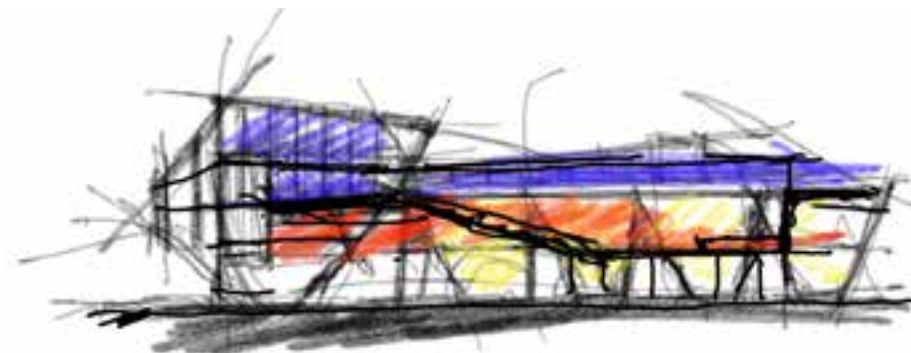
CONCEPT SKETCHES



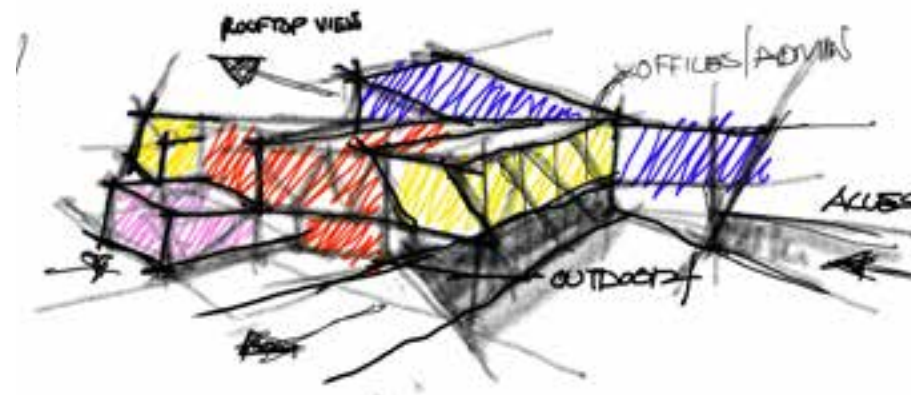
Maximized views on heaps.



Ramps and access at connections

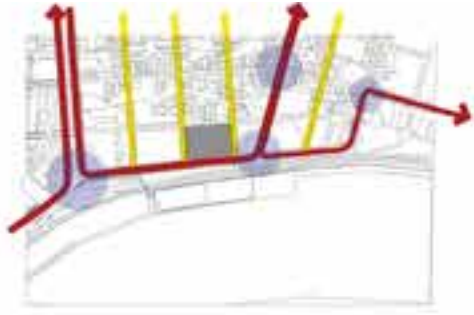


Theater at the Core



Interlocking blocks

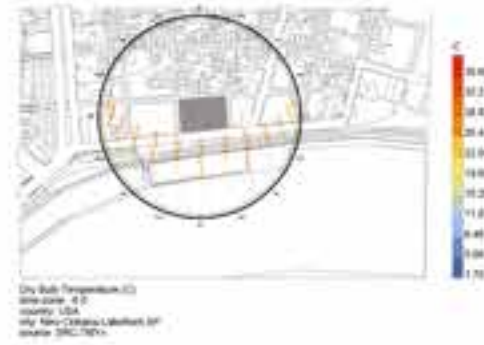
PROGRAM DEVELOPMENT



The main access artery is the N. St Peter's road, with auxiliary access routes coming from Elysian Fields Avenue and Homer Plessy Way.



The most noise comes from the passing ships on the Mississippi River. Vehicular traffic also generates some noise but minimally.



The hottest month is July - August with temperatures between 91-93 F. Both months also receive the most rain.

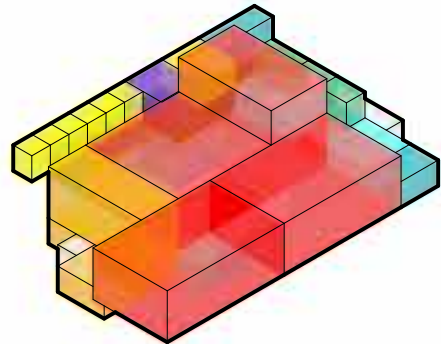


The land undulates gently from 27 feet above sea level downwards into the city. The river therefore is the highest point.

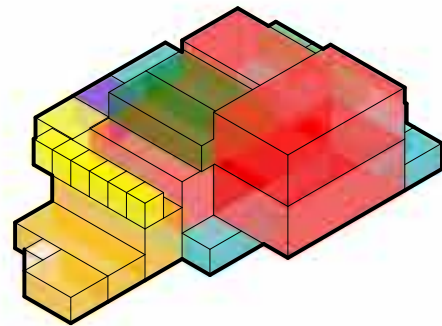


The strongest winds are south easterly winds that come in March through May and cause storms, Over 13 m/s winds.

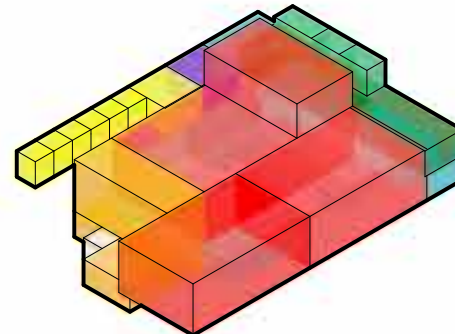
CONCEPT DEVELOPMENT



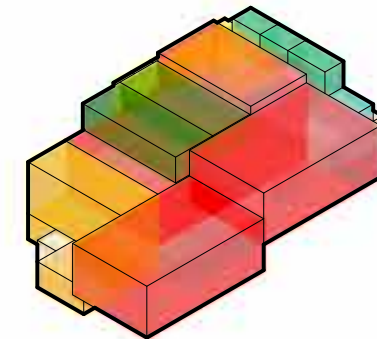
Compact Block, separate Public and Private



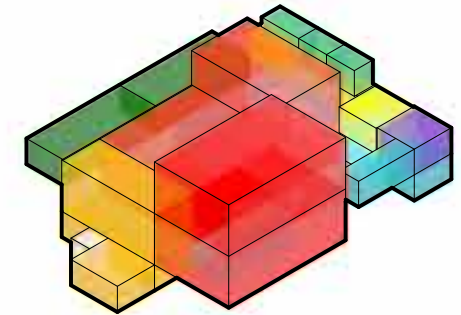
Stacked overlapping private and Public spaces



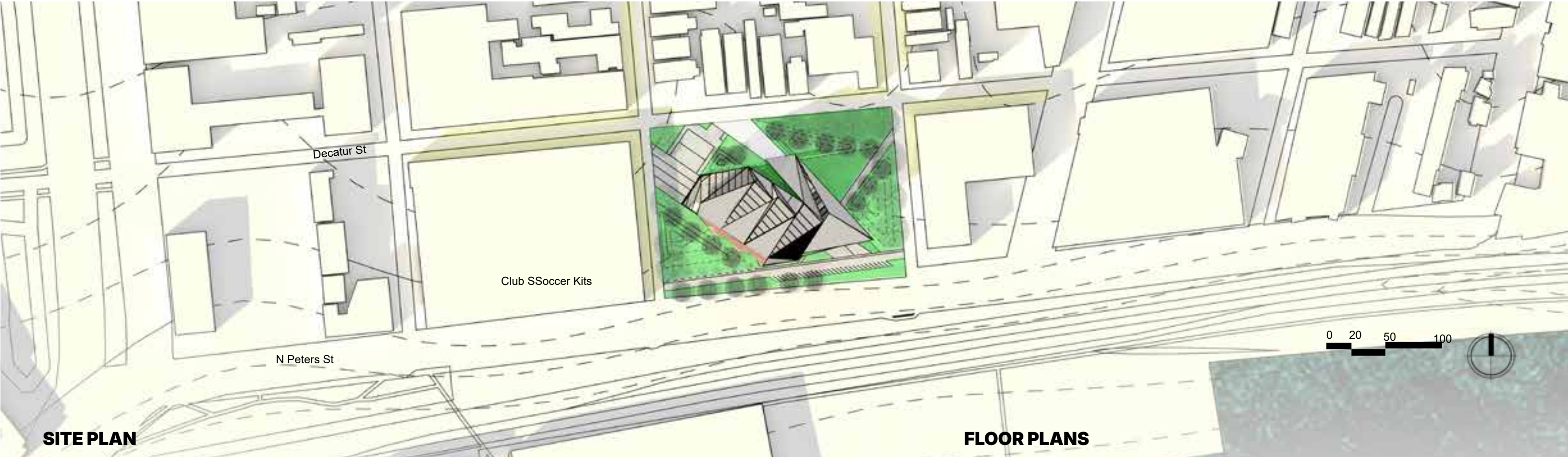
Shared Offices and Amenities



Stepped to reveal light and Access



Open ground and Stack for more communal spaces.

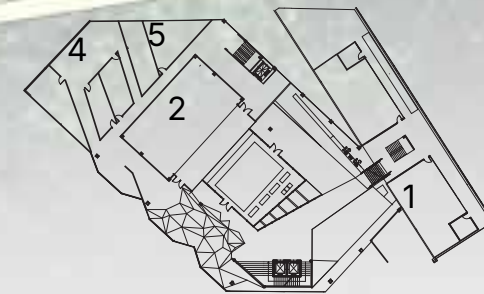


SITE PLAN

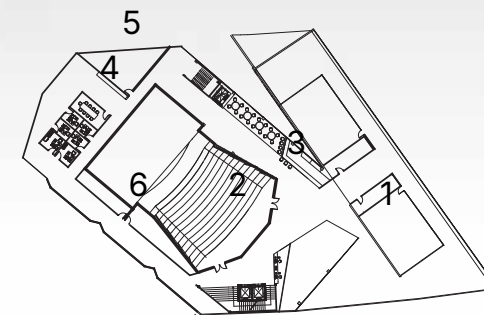
FLOOR PLANS



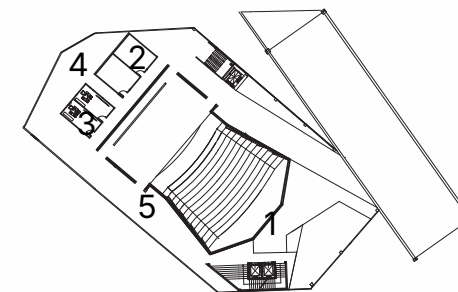
- LEGEND**
- 1. Storage Area
 - 2. Costume Design
 - 3. Fabrication Shop
 - 4. Reception
 - 5. Lobby/Costume Display
 - 6. Dock
 - 7. Offices
 - 8. Mechanical Room
 - 9. Outdoor square
 - 10. Ramp to Rehearsal space



- FIRST FLOOR**
- 1. Classroom
 - 2. Stage
 - 3. Changing Room
 - 4. Lounge
 - 5. Storage



- SECOND FLOOR**
- 1. Rehearsal Space
 - 2. Theater
 - 3. Cafe/Lounge
 - 4. Offices
 - 5. Storage
 - 6. Public Bathrooms



- THIRD FLOOR**
- 1. Green Roof
 - 2. Bathroom
 - 3. Technical Offices
 - 4. Lounge
 - 5. Catwalk





SOUTH



EAST



NORTH



WEST

Private/ Building Support /Staff

Public Spaces /Theatercore

Entrance

TECH OFFICES

STAFF OFFICES

LOUNGE

DOCK

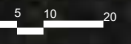
REHEARSAL SPACE

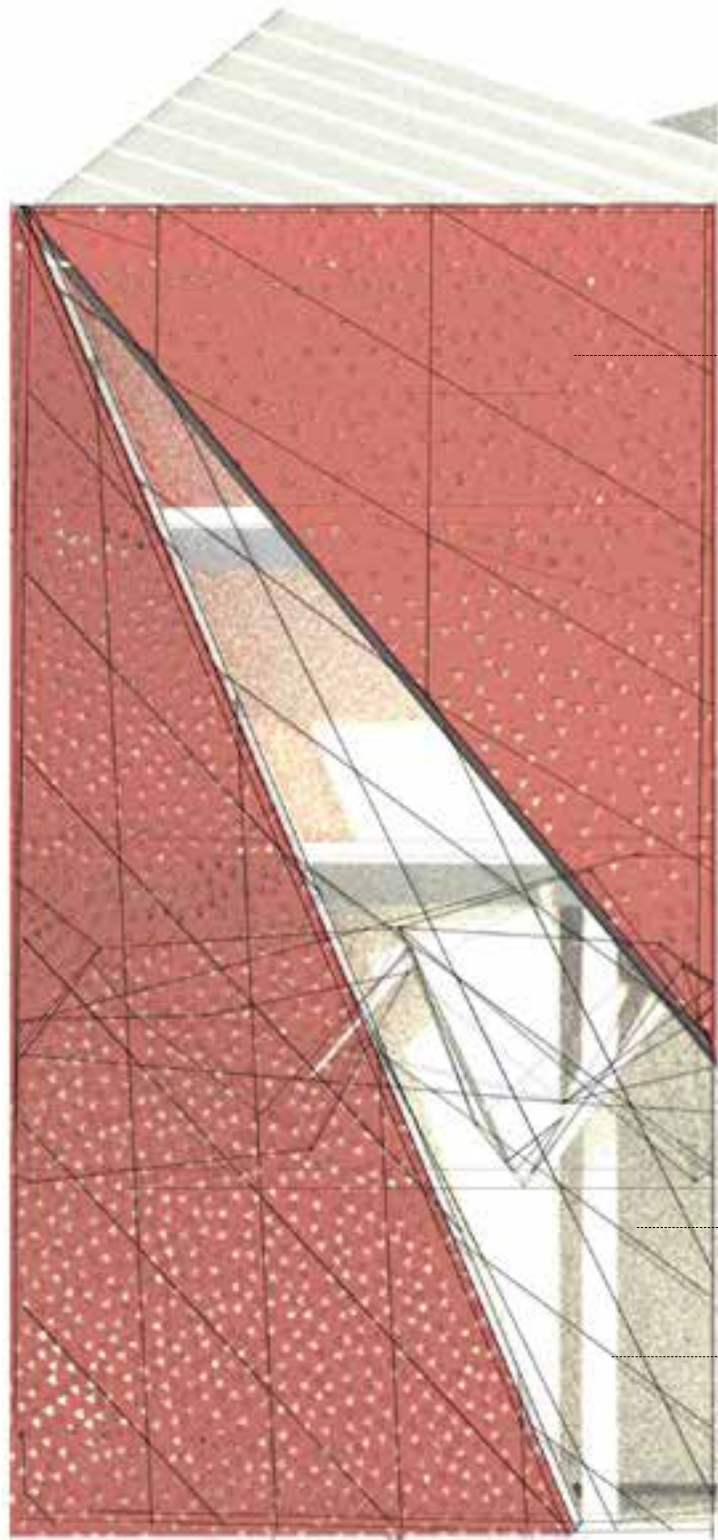
CLASSROOMS

OUTDOOR PLAZA

A

A





ELEVATION

R-15 WALL INSULATION

PERFORATED POLYSTYRENE
PANELS FOR SHADING

STEEL BEAM

STEEL COLUMNS FIRE
PROTECTION COATED

POST TENSIONED CONCRETE FLOOR

ACOUSTIC PANELS WITH SPEAKERS FOR
SOUND EFFECTS

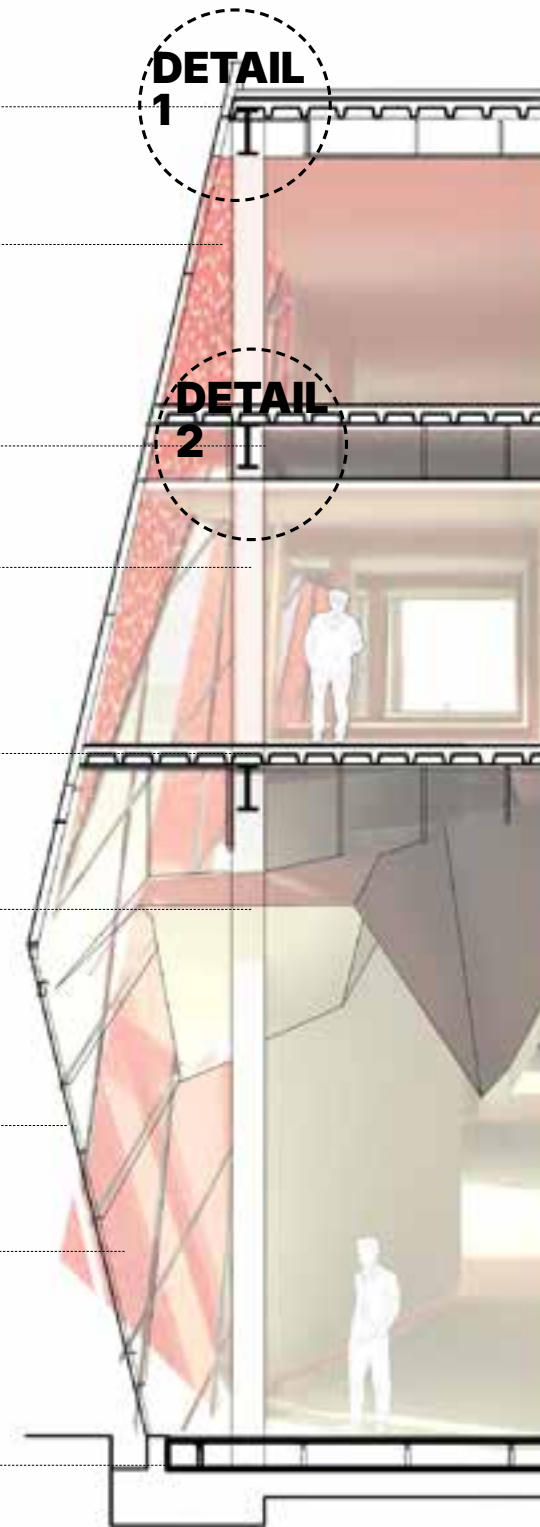
2" ALUMINIUM PANEL SUPPORT

LOW-E IMPACT RESISTANT GLAZING

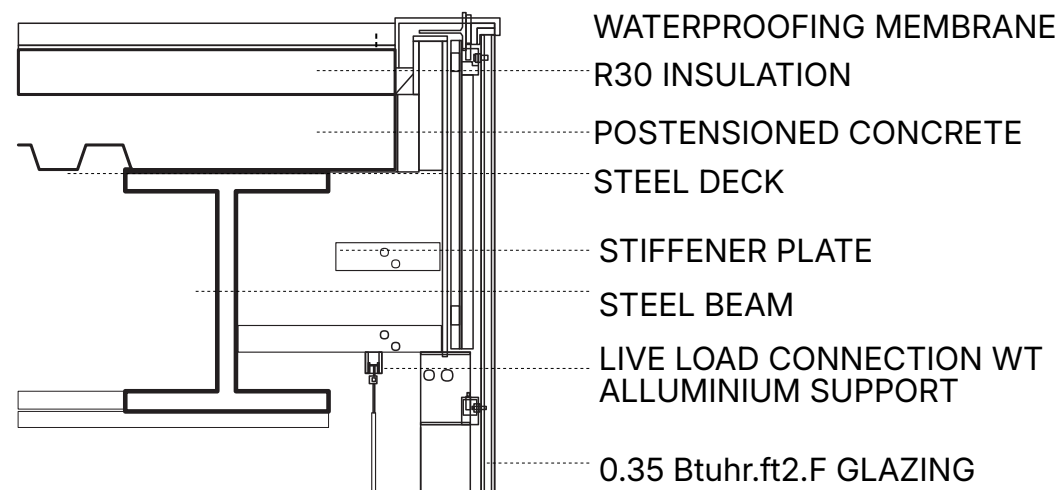
SOUND ACTUATORS ON FLOOR PANELS

**DETAIL
1**

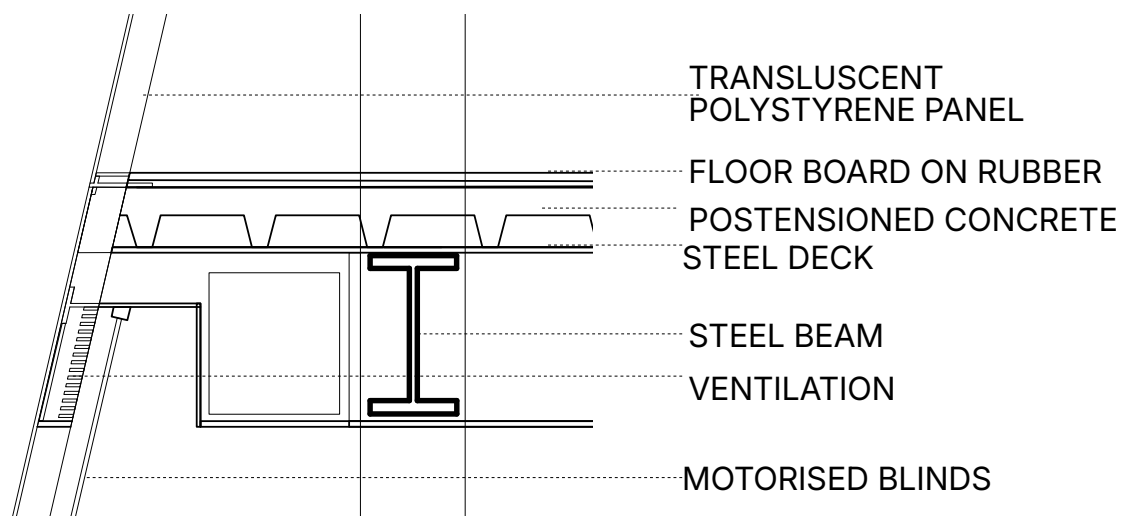
**DETAIL
2**



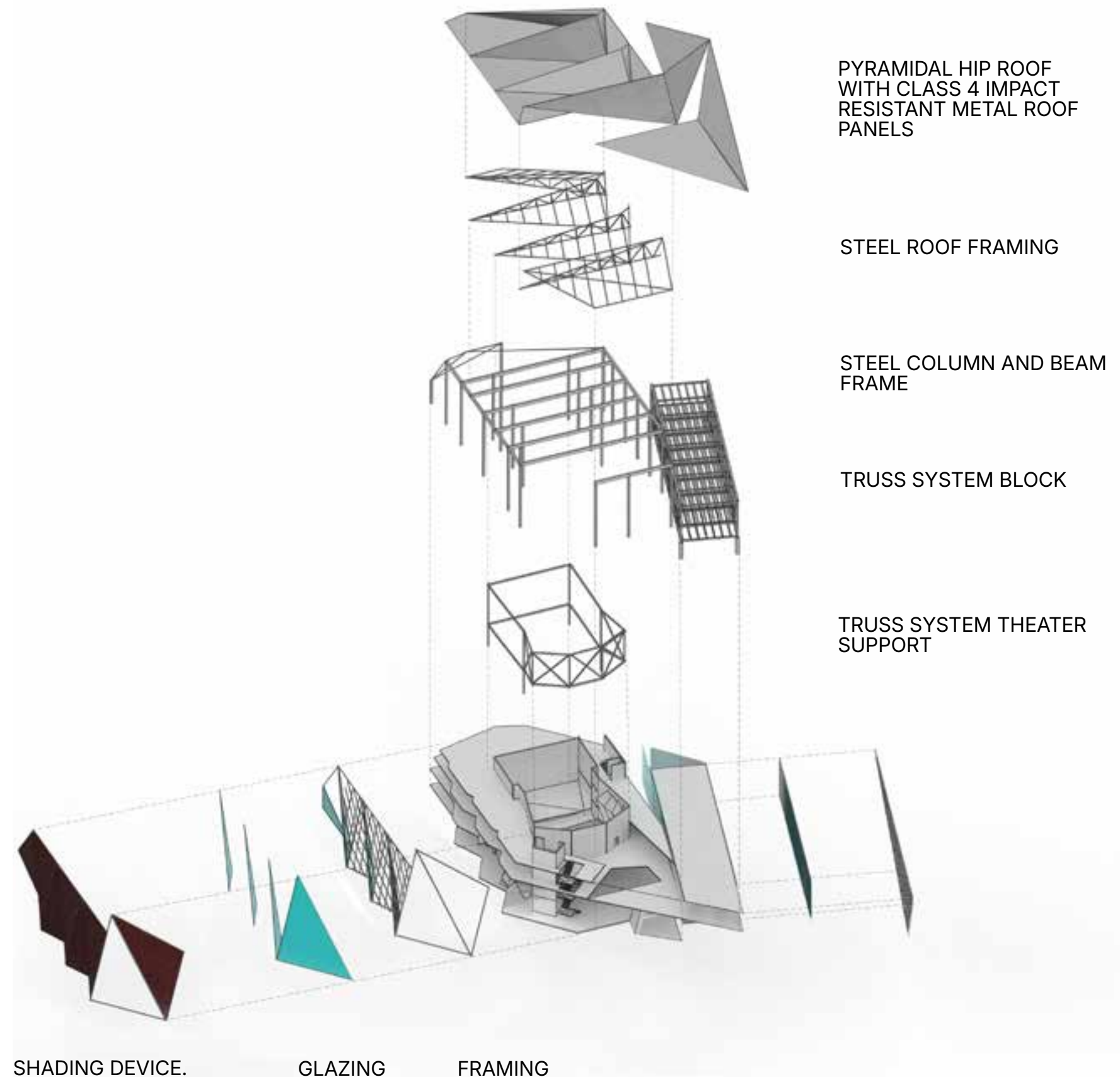
SECTION BB



DETAIL 1



DETAIL 2



AXONOMETRIC DECONSTRUCTION



1



2



3

1. RECEPTION
2. LOUNGE/MURALS
3. ENTRANCE/COSTUME DISPLAY



03

DROUKAS COURT, THE SANCTUARY

Location: Des Moines, Iowa

Status: Graduate Student Work, 2024

Course: ARCH 506

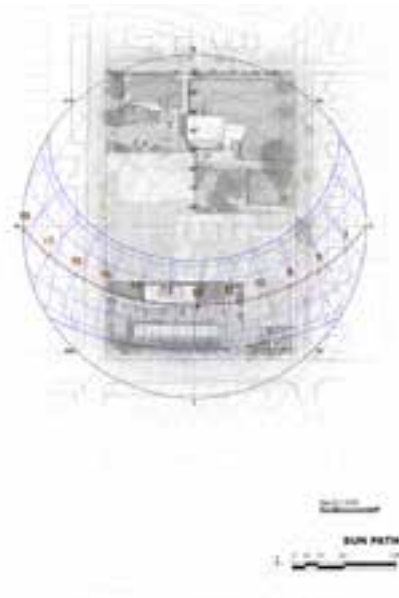
Supervisor: Andrew Gleeson

Droukas Court stands as a beacon of hope and resilience amidst the ever-shifting tides of climate change. It is a contemporary California bungalow-style estate, meticulously designed to provide sanctuary for climate refugees. This design not only offers shelter but fosters community and empowerment, setting a benchmark for future refugee housing initiatives worldwide.

At its core, this estate is more than just a collection of buildings; it's a testament to human compassion and innovation. The community center serves as the initial refuge for displaced individuals and families, offering a haven where they can find solace, community support, and essential resources as they transition to their new lives. Here, bonds are forged, stories are shared, and a sense of belonging begins to take root.



SITE ANALYSIS



Sun-Path



Wind



Vegetation

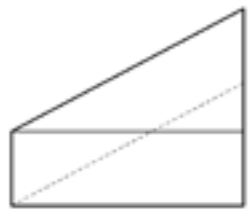


Access

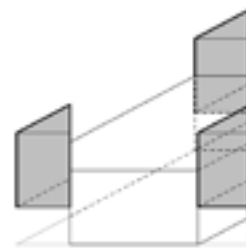


Views

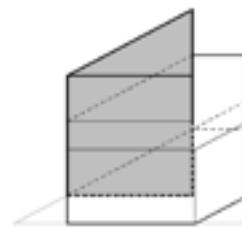
FORM DEVELOPMENT



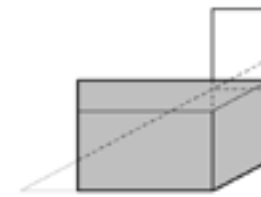
Block



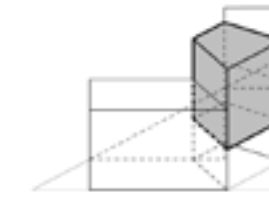
Chamfer



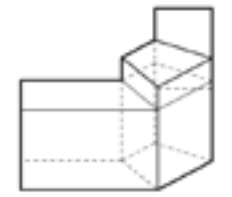
Remove



Public vs Private

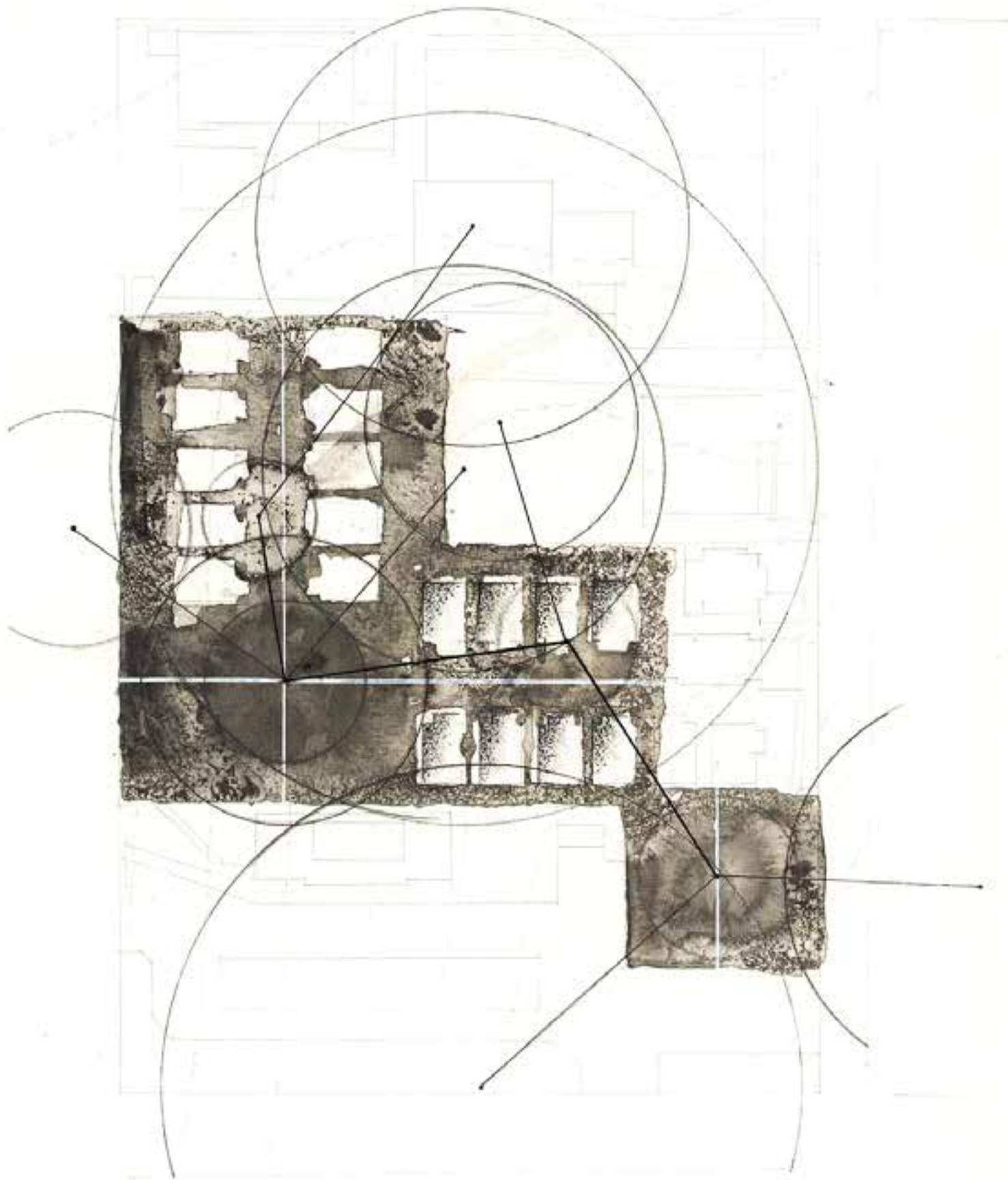


Focal point

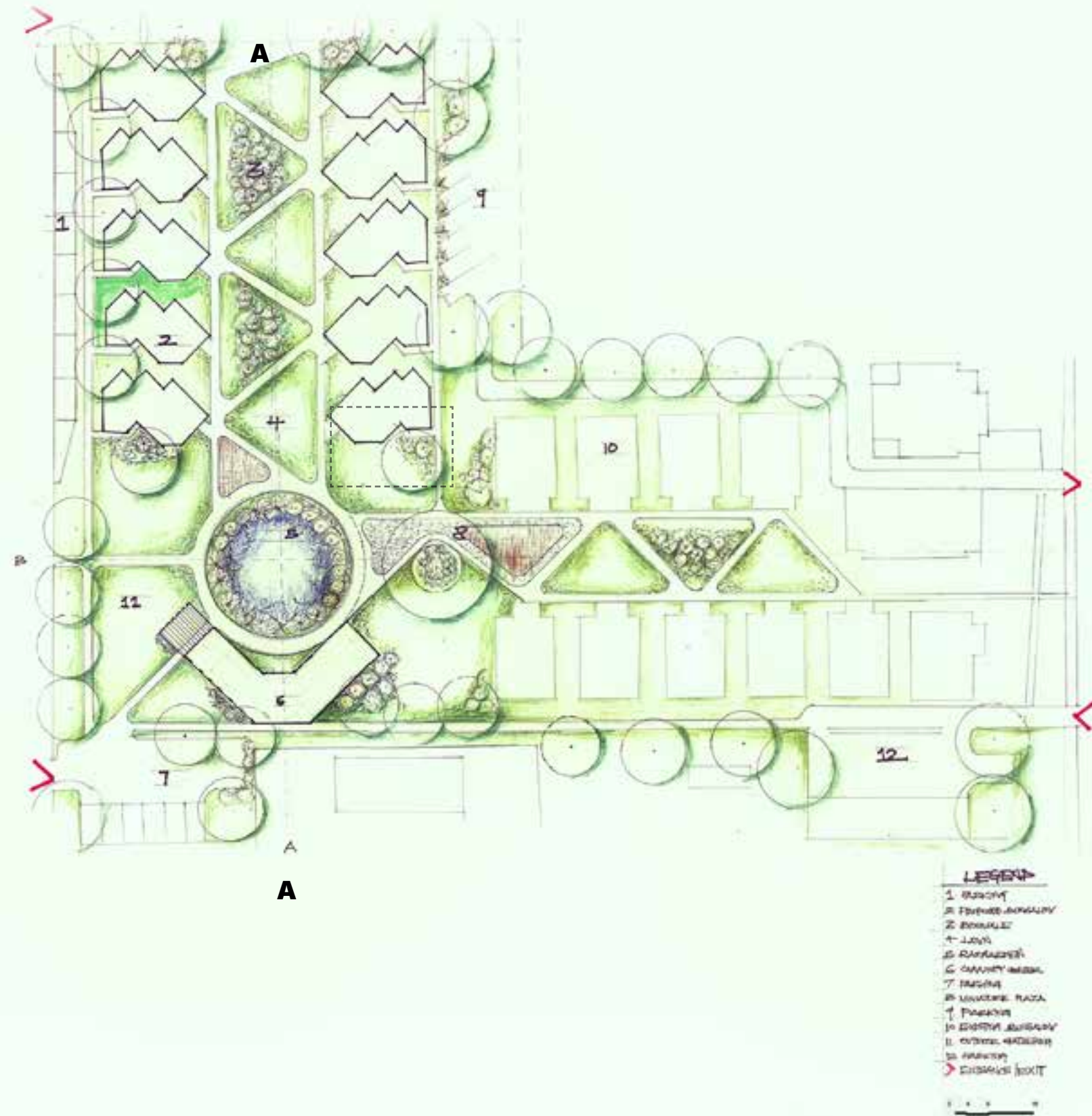


Final form

The design is greatly inspired by the direction of the Sun in lowa and the views of the interior courtyard that is the centre of the bungalow courts. The circulation of traffic is oriented around the raingarden as a focal point.



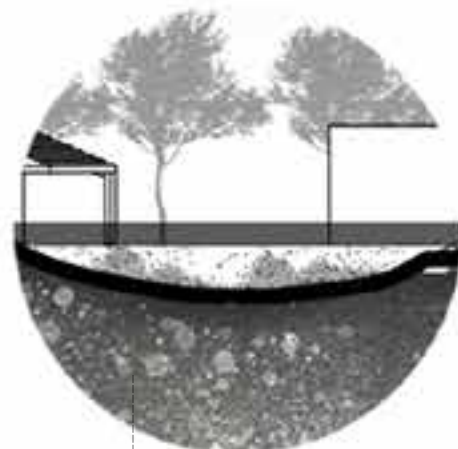
WATERCOLOR CONCEPT DEVELOPMENT



THE SANCTUARY LANDSCAPE SITE PLAN



Community center



Raingarden



Multipurpose lawn



Bungalows



COMMUNITY CENTER

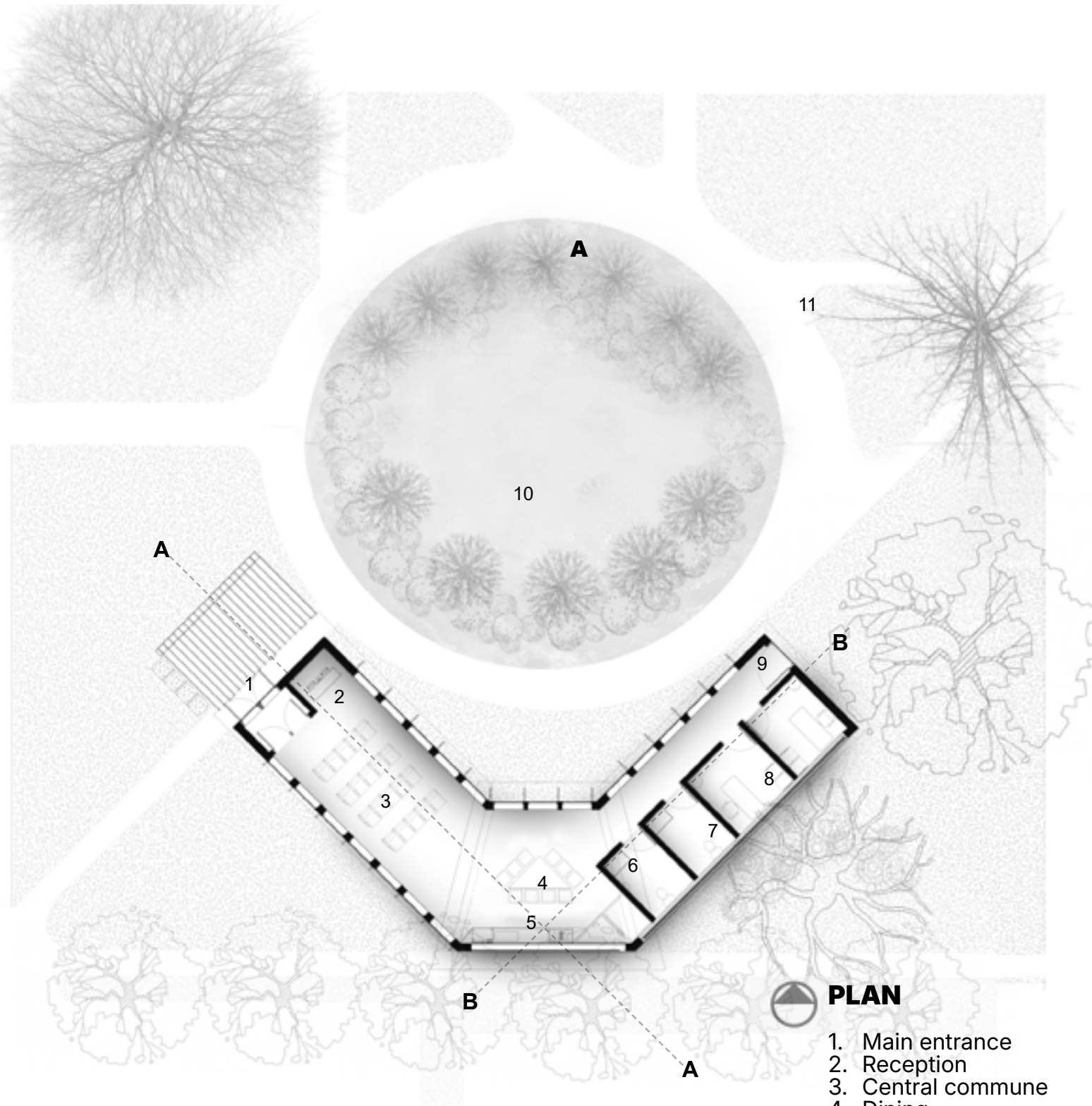
RAINGARDEN

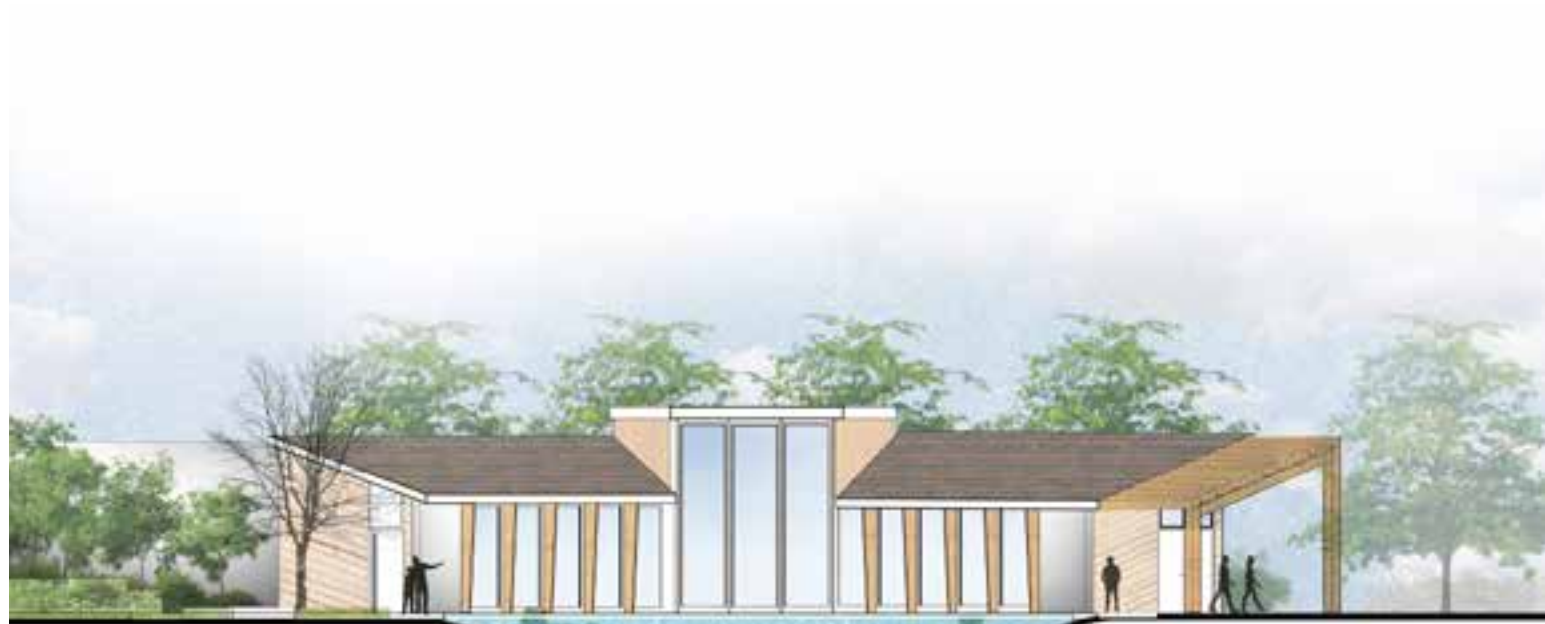
BIOSWALE

BUNGALOWS

PLANTING TO FRAME VIEWS

SECTION AA





Paved Walkway

Raingarden

Paved Walkway

Open Lawn

NORTH ELEVATION



Outdoor Gathering

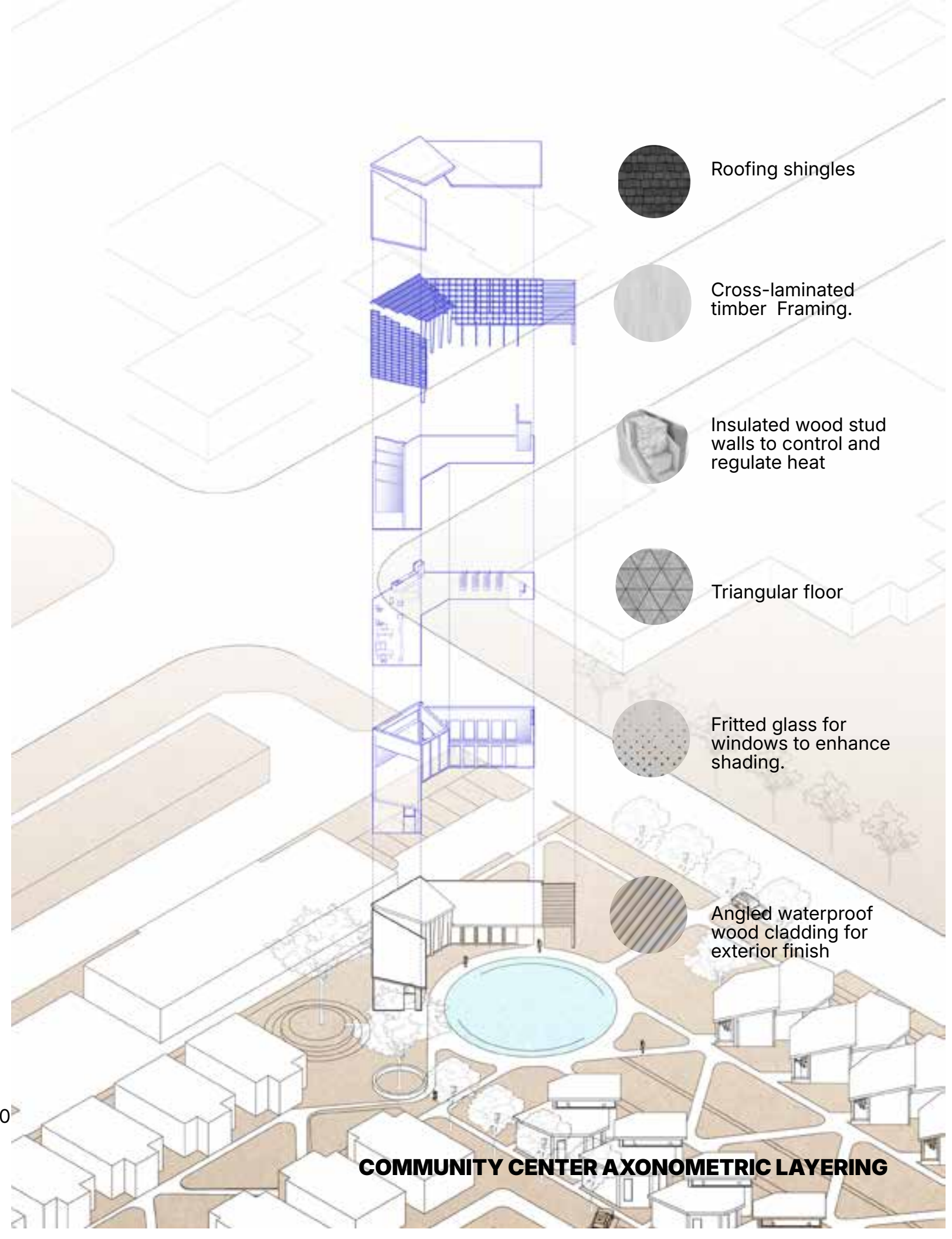
Main Entrance

Transparent Central Commune

Private Spaces

Lawn

SOUTH ELEVATION



Roofing shingles

Cross-laminated timber Framing.

Insulated wood stud walls to control and regulate heat

Triangular floor

Fritted glass for windows to enhance shading.

Angled waterproof wood cladding for exterior finish

COMMUNITY CENTER AXONOMETRIC LAYERING

04

DES MOINES ART CENTRE COURTYARD

Location: Des Moines, Iowa
Status: Year 1, Graduate Student Work, 2023
Course: ARCH 505
Supervisor: Peter Zuroweste
Team-mate: David Turner

Inspired by the dynamic view cones tracked from the movement of actors in the classic film "Rear Window," this architectural design for the Des Moines Art Centre stands as a testament to innovative and cinematic creativity.

This avant-garde structure elegantly captures the essence of visual storytelling by incorporating a design that mimics the fluid movements and perspectives observed in the film. The building's form is carefully crafted to facilitate an immersive movie screening experience, with multiple vantage points and carefully calculated sightlines that mirror the intricate choreography of the movie's actors.

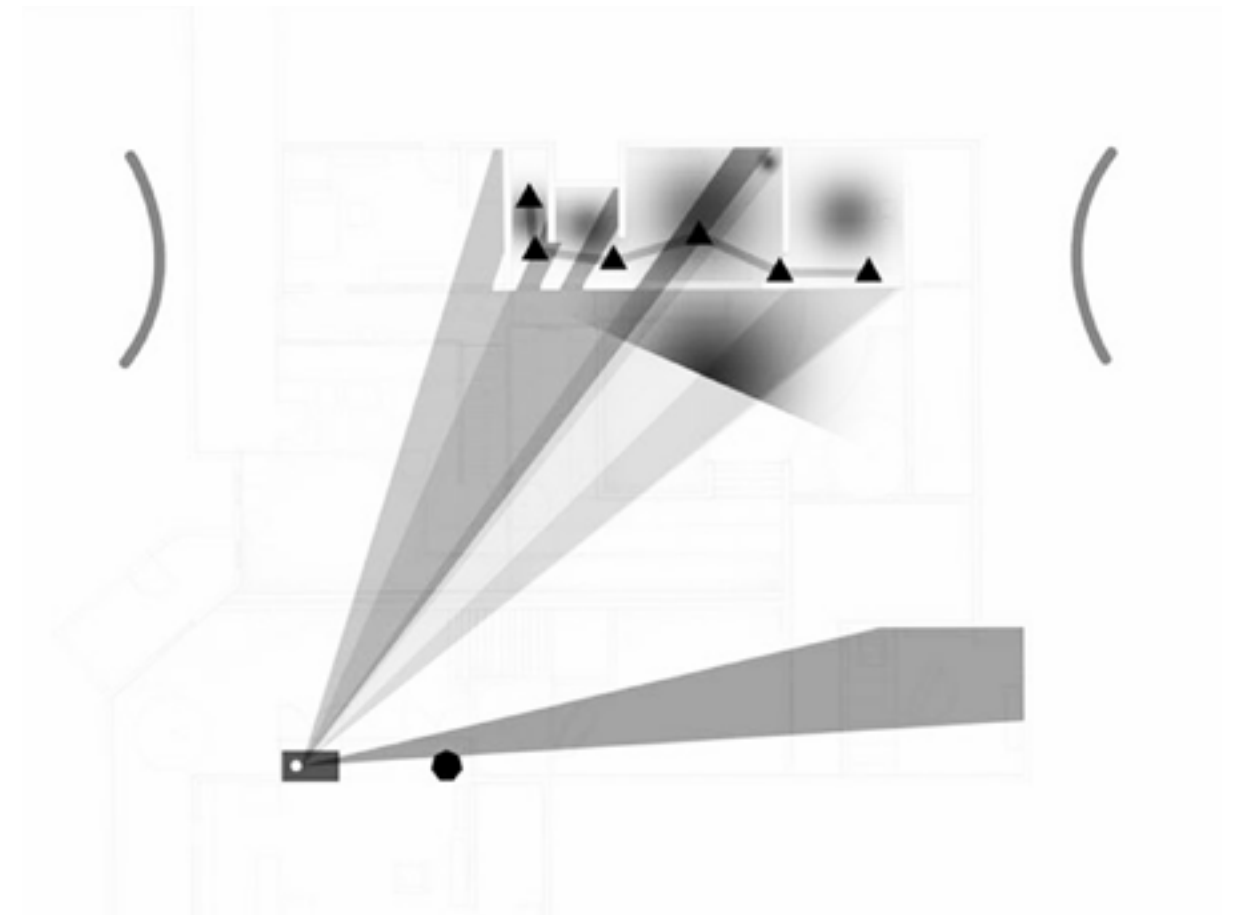




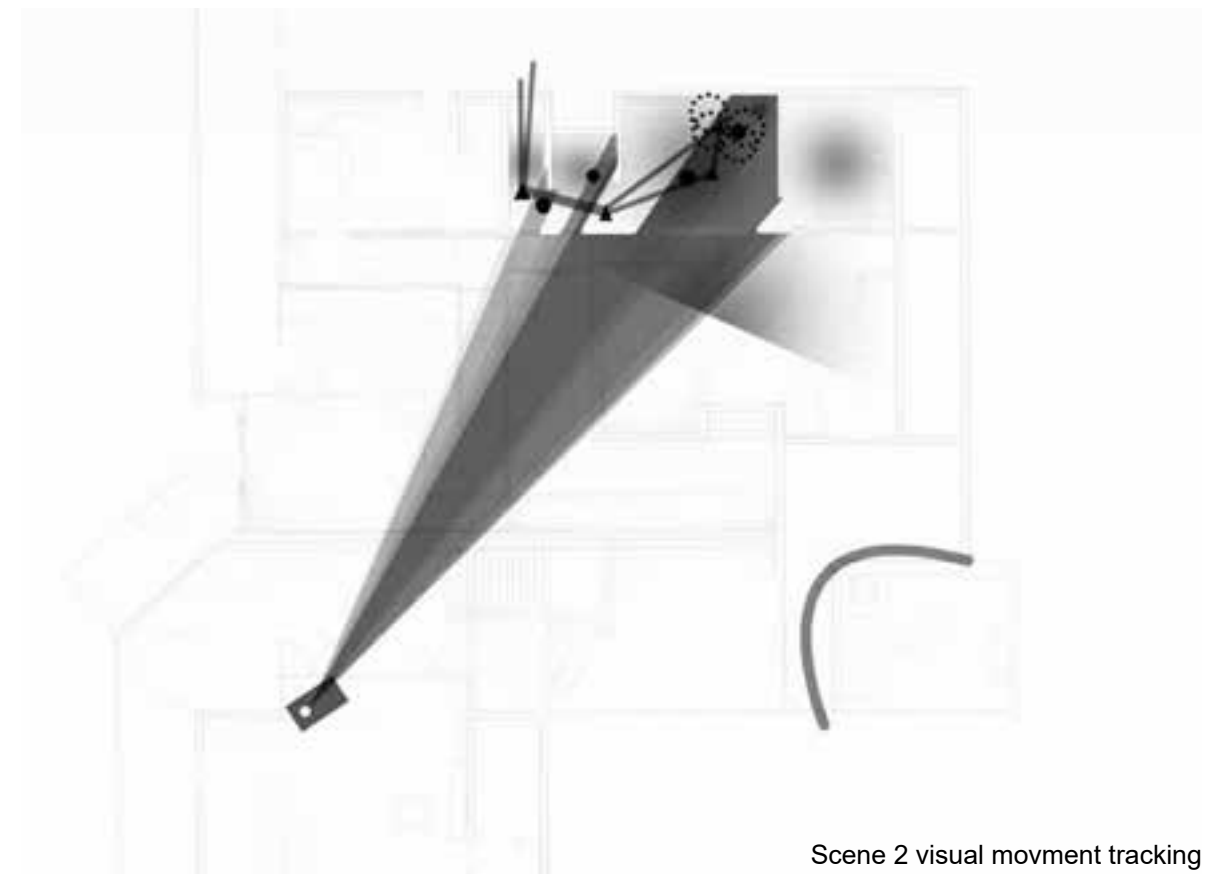
SCENE 1
Thorwald walking into his apartment scene montage.



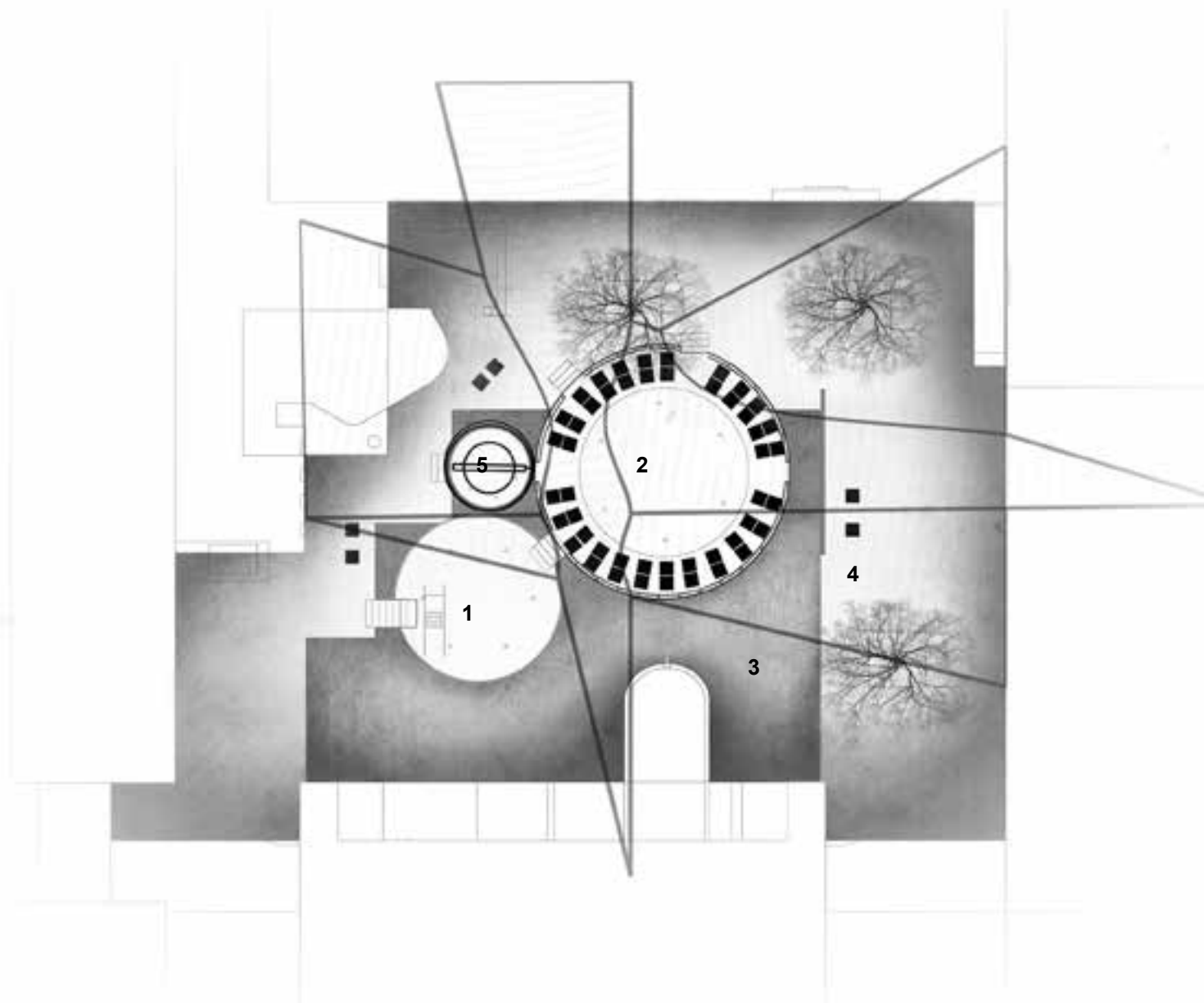
SCENE 2
The night visitor scene montage.



Scene 1 visual movement tracking

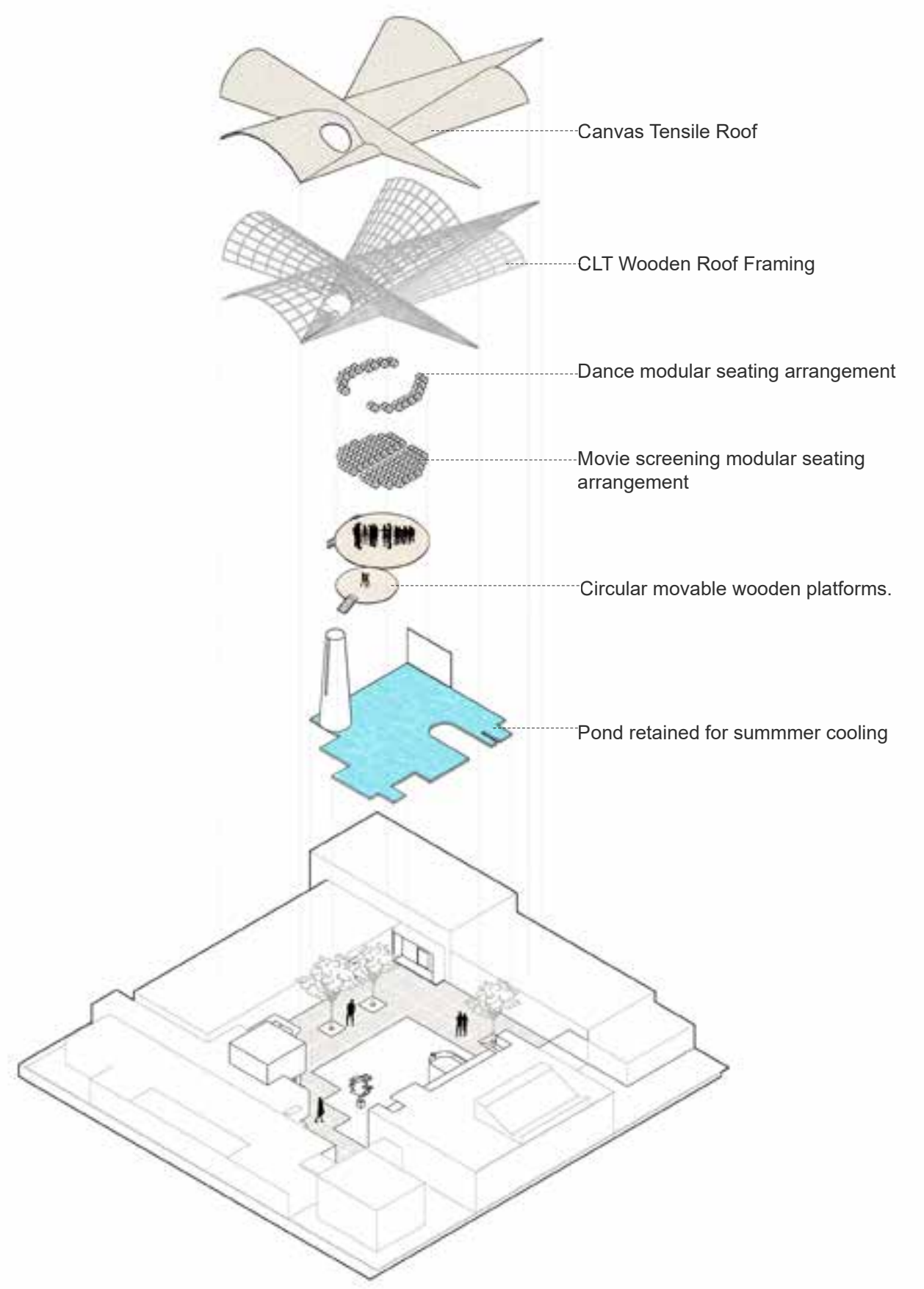


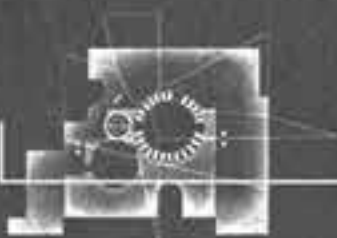
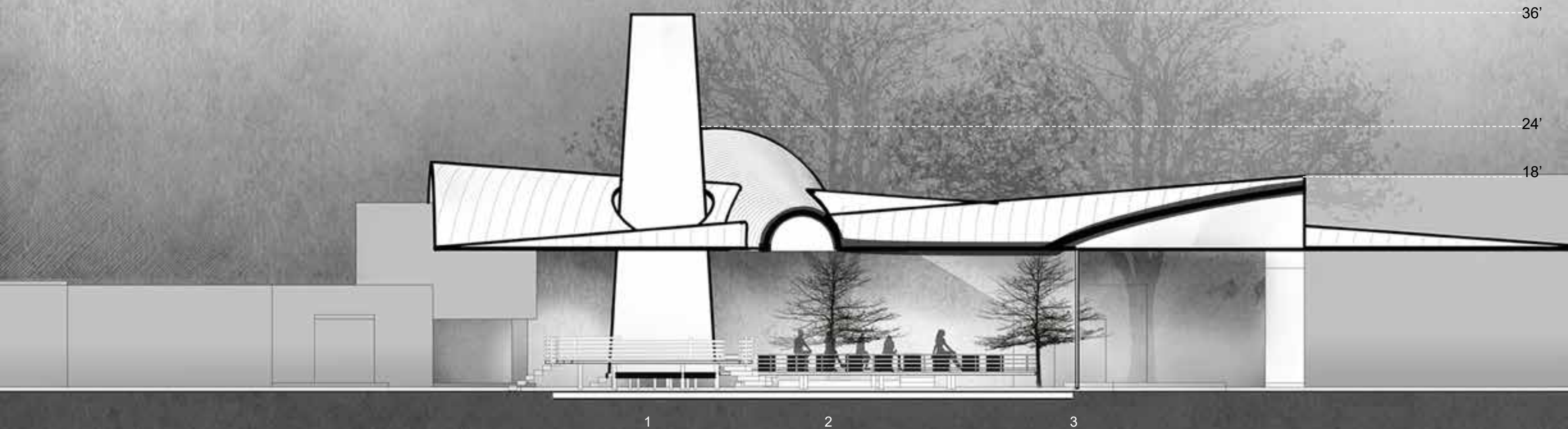
Scene 2 visual movement tracking

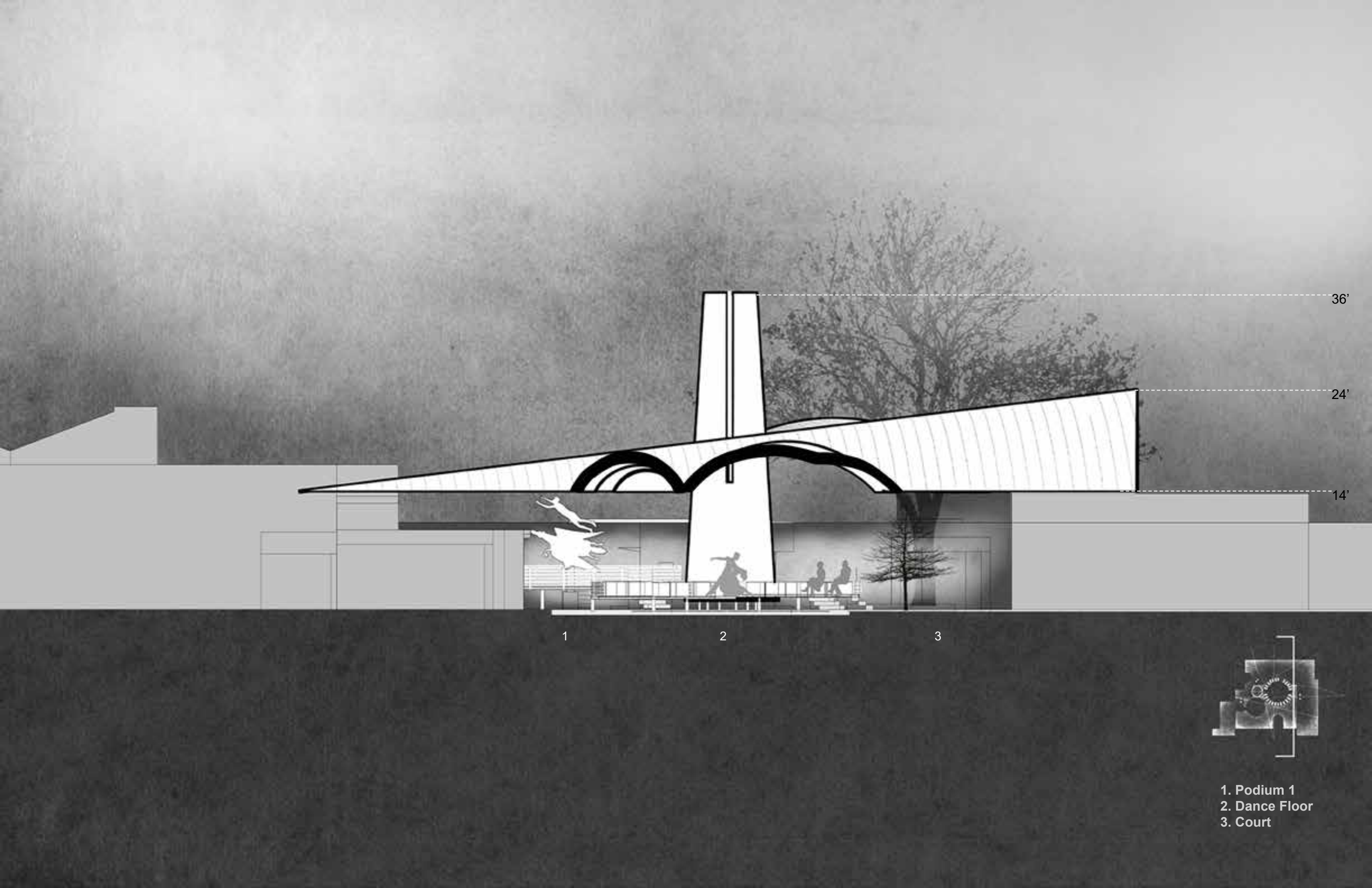


PLAN

- 1. Dance floor 1
- 2. Dance floor 2
- 3. Pool
- 4. Seating area
- 5. Projector Booth







36'

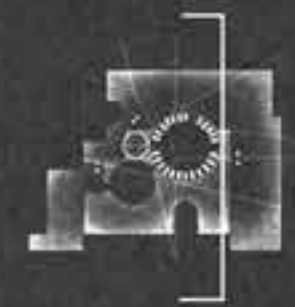
24'

14'

1

2

3



- 1. Podium 1
- 2. Dance Floor
- 3. Court



South Elevation



East Elevation



West Elevation



North Elevation



05

GACUANA, CULTURAL CENTER FOR ORAL NARRATIVES

Location: Puerto Rico

Status: Year 2 Graduate Student Work, 2024

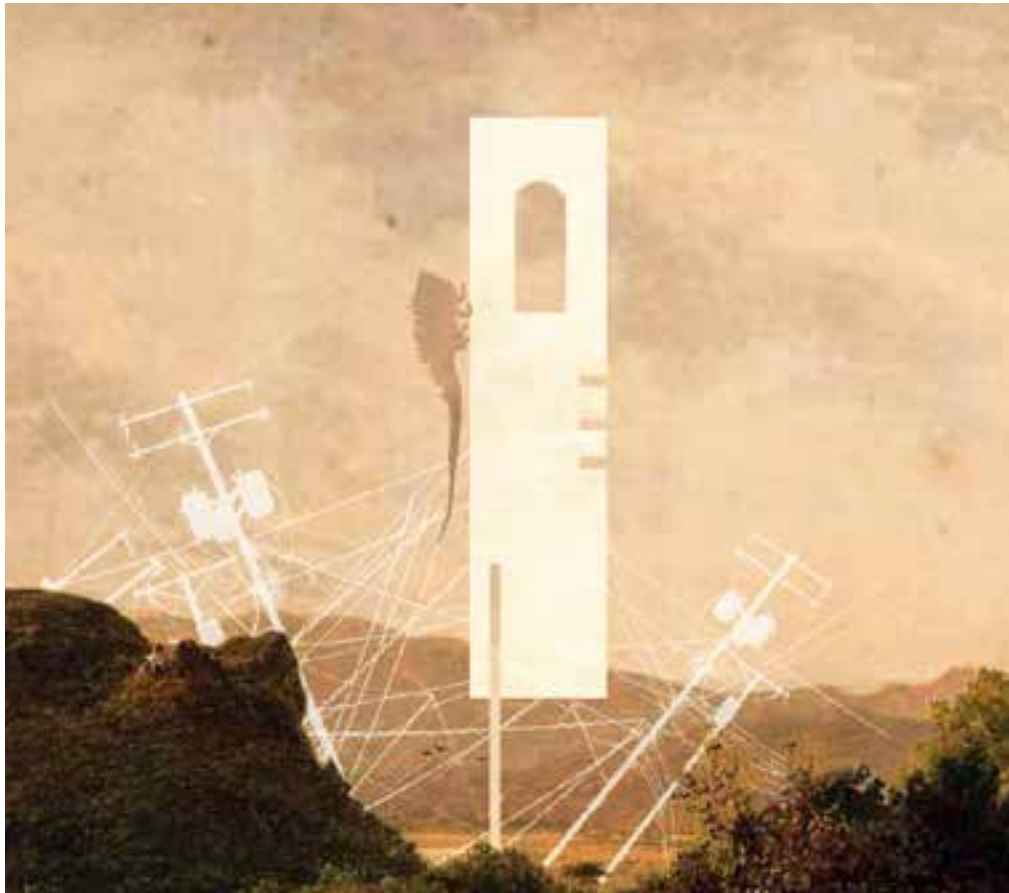
Course: ARCH 6020

Supervisor: Cruz Garcia

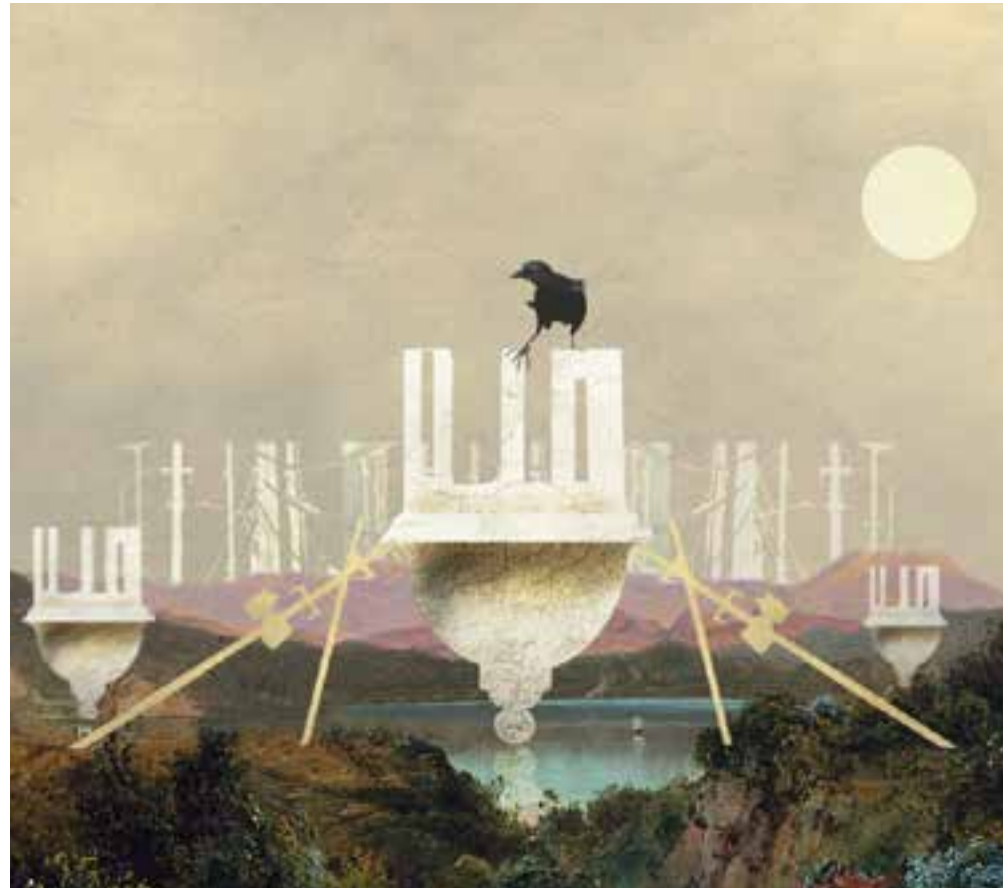
The cultural center for oral narratives was the heart of my vision, a space designed to reclaim Puerto Rican storytelling traditions and create an environment that fosters cultural resilience. In designing this center, I sought to craft more than just a building. I aimed to create a living, breathing vessel for the stories, histories, and voices that have been marginalized or silenced through centuries of colonial influence.

Drawing inspiration from Taíno architecture and motifs, I designed the cultural center to reflect the fluidity and adaptability of oral narratives themselves. The spaces within are open and modular, allowing for a variety of uses, from intimate storytelling circles to large-scale communal gatherings and gallery areas. The architectural form weaves organic curves and natural materials, creating a structure that feels rooted in the landscape while embracing its surroundings. This intentional blending of form and nature symbolizes the inseparability of Puerto Rican identity from its land, history, and people. Inside, the center features storytelling rooms with carefully designed acoustics to enhance the spoken word's power.





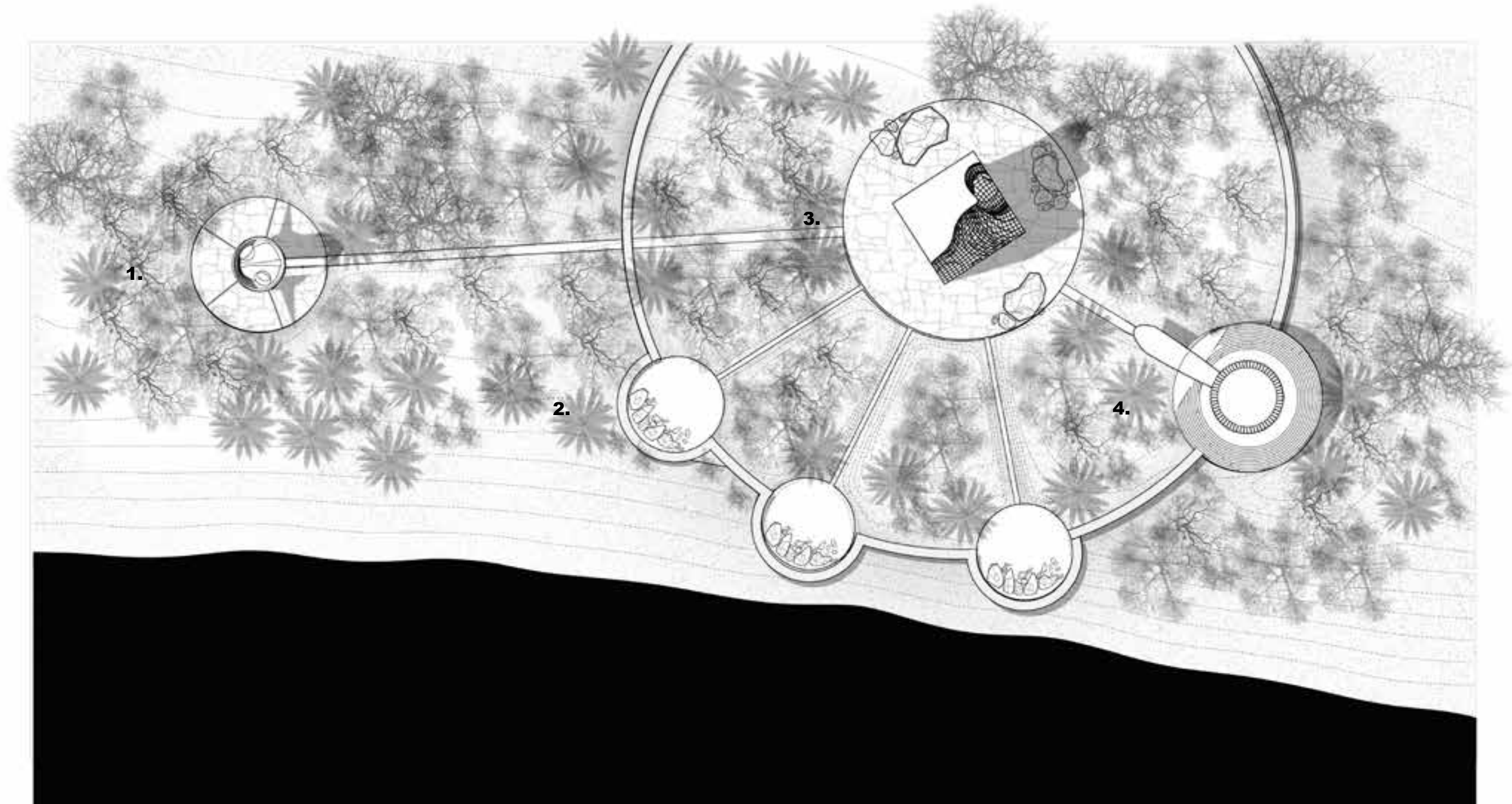
Precarious Power



Misplaced Structures



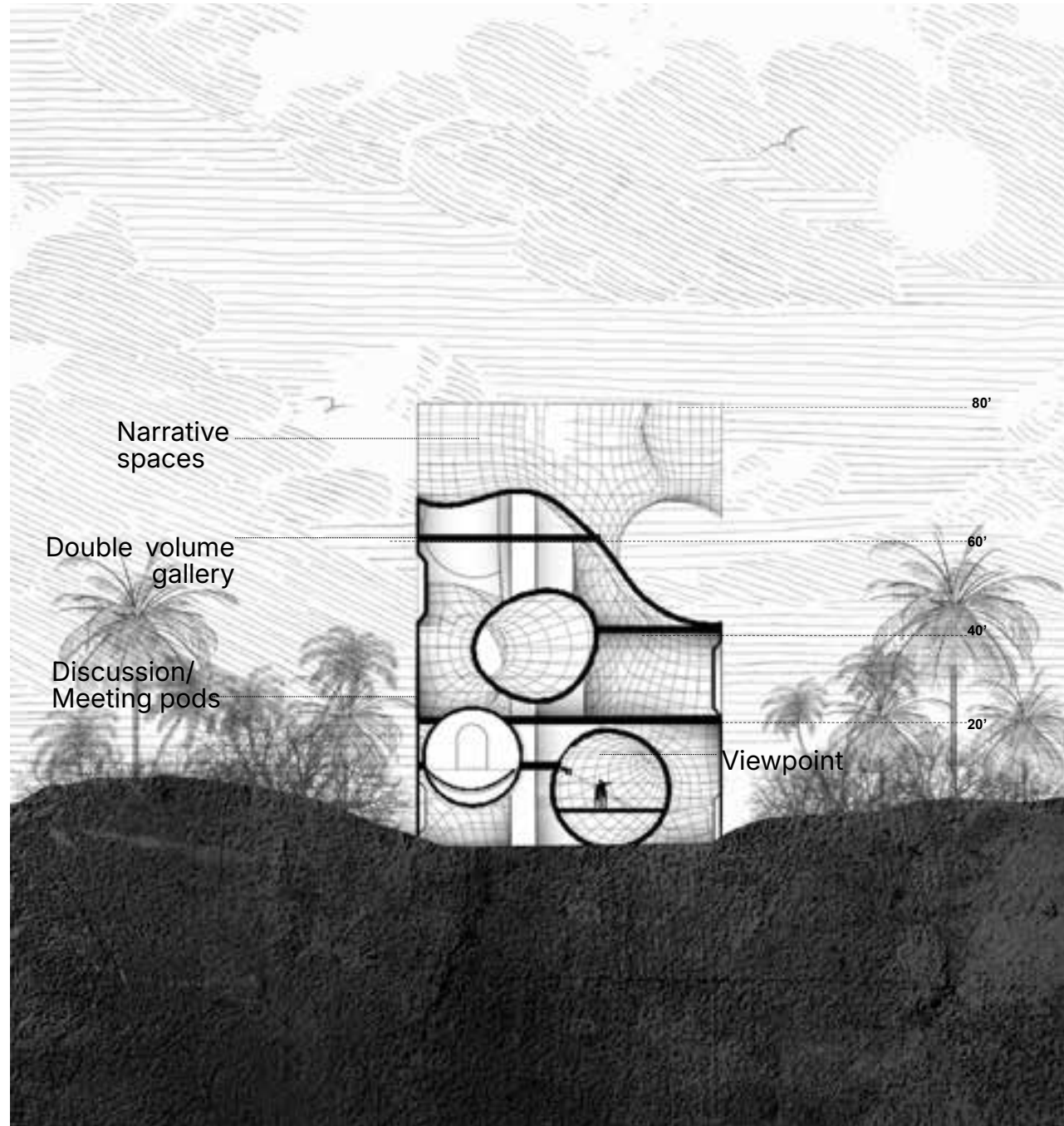
Relics of Trauma



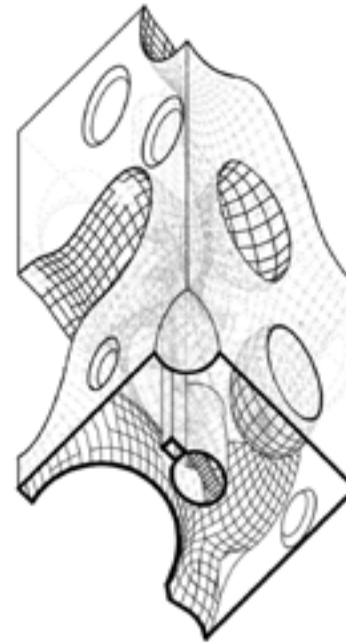
LEGEND

- 1. Loudreading Center
- 2. Outdoor Communes
- 3. Cultural Center
- 4. Commune

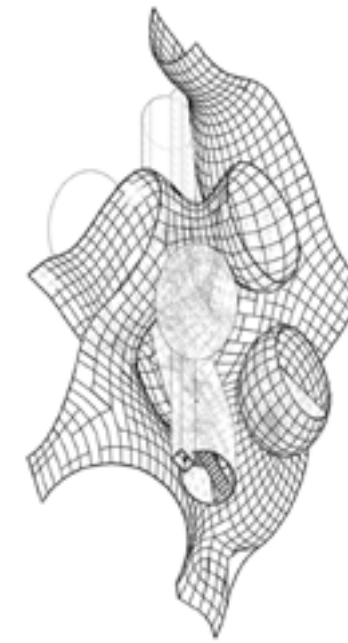




Cultural Center Section



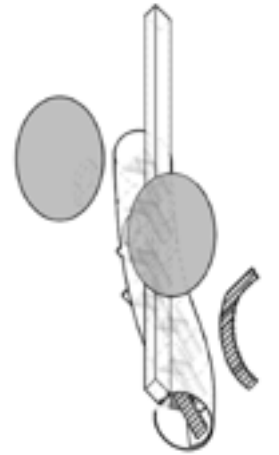
Concrete Exterior envelope with Circular windows for view framing and load bearing walls.



Bamboo and adobe skin to mimic earth and rock texture for an earthy effect and more construction control. The concept is to create an organic fabric.



Concrete floors with circular cutouts for dramatic interior lighting and creation of interesting ceiling views. A gallery effect.



Structural core that mimics the body organs surrounded by spherical discussion/story pods. A representation of the body that is consumed and wasted in capitalistic pursuits.



Batey interior view



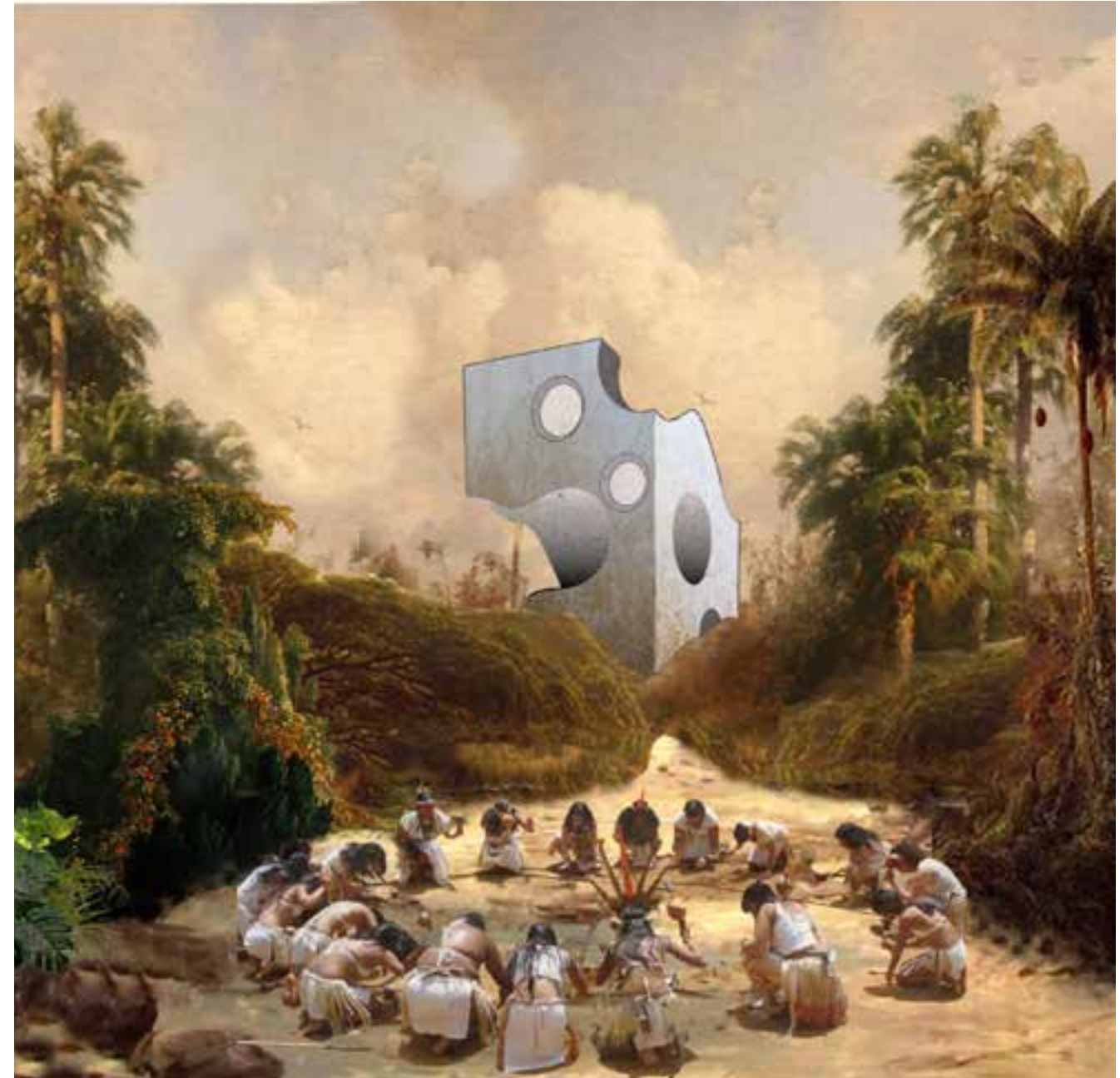
Gallery interior view



Clay Model



Final Cast



Deprived of my voice, surely....
Unjustly taken out of my existence,
My consciousness absorbed and engulfed in the fatality of the future,
Maybe the sun will rise , if not ,my spirit will survive

06

ADVANCED DESIGN TECHNOLOGY

Location: Des Moines, Iowa

Status: Year 1, Graduate Student Work, 2023

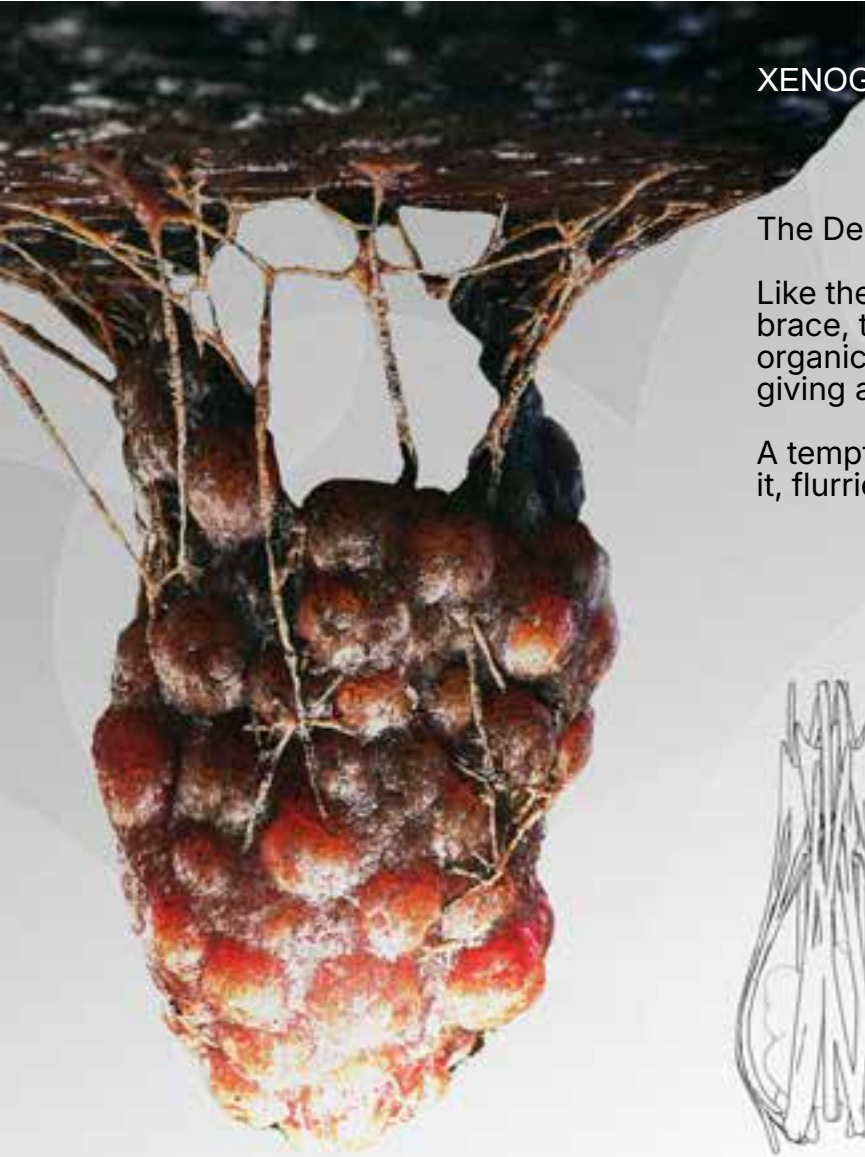
Course: ARCH 536

Supervisor: Roman Chikerinets

This Seminar was focused on the use of 3DS Max as a tool of design for quick production of conceptual designs and realistic renders. This was also supported by using Foloform and other AR technologies for situation of the scaled model on different sites in Ames. I include two projects in this chapter:



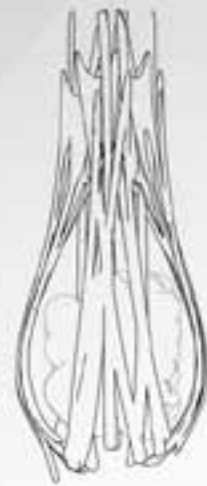
XENOGENIC FUSION



The Design Proposal is inspired by the Alien Egg Hives.

Like the celestial alien eggs cradled in the cosmic embrace, these enigmatic structures evoke a fusion of organic elegance and extraterrestrial allure. Delicate but giving a sense of new life and love.

A temptation to touch is imminent, and when one falls to it, flurries of lovehearts are released to the atmosphere.



ELEVATION



SECTION



PLAN

Crowd system Solvers used as Drawing Simulations.

Motion Tracking changed to Poly.

Polygon Edited by Bridging of faces and edges.

Mirror Modifier applied.

Symmetry and TurboSmooth Modifier Applied.

Particle Flow used to generate Love-Hearts.



PROJECT 4



The Alien Egg Hive, is a nexus of intrigue and wonder. Illuminated by the city's glow, these mysterious orbs pulsate with ethereal energy, echoing the spirit of the community. Within their translucent shells, they birth Loveheart Flurries, delicate manifestations that captivate the souls of the beholders.

ANIMATION SEQUENCE

With a tingling magical sound in the background, there is an invite to touch. This triggers love and Love-hearts flurry to the sky.



07

FINE ART

I explore themes of The paintings are done in oils, acrylics and ink and are part of my recent exhibitions focused on place and its influence on the persona. I explore what creates identity and themes of belonging. The paintings are done in oils, acrylics and Mixed Media.



Who Am I
Oil on Canvas
3ft x 3ft



Renaissance Man
Mixed Media on Canvas
24" x 18"



Masks
Mixed Media on Canvas
36" x 48"



Ubuntu
Mixed Media on Canvas
36" x 48"

Merit Award, Studies in Creativity , Iowa State Univeristy 2024

Thank You
Timothy Ochola
www.timochola.com

PORTFOLIO