

# Isabella Joorabchi

AAS Architectural Technology  
SUNY Orange  
2023-2026

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# Architectural Design 1

# Experience Problem

Project Objective: Incorporating lessons on Primary Elements and from the Repetitive Parts Project, design one space which creates a unique experience.

Using only primary elements (point, line, plane, volume), design three separate, distinct spaces, each based on an adjective. Spaces may be no smaller than 40 s.f. and no larger than 200 s.f.

In each space, you are required to differentiate the base plane (floor) from the ground plane. In each space, there should be a clear path of circulation, and a two defined points of entry. Consider the view from each space. How are you framing the view?

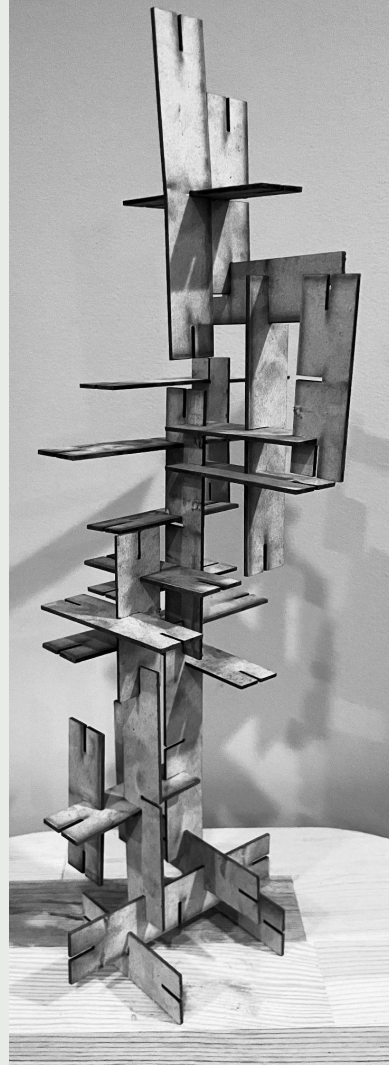
# Proposed Solution:

## The Komorebi Experience

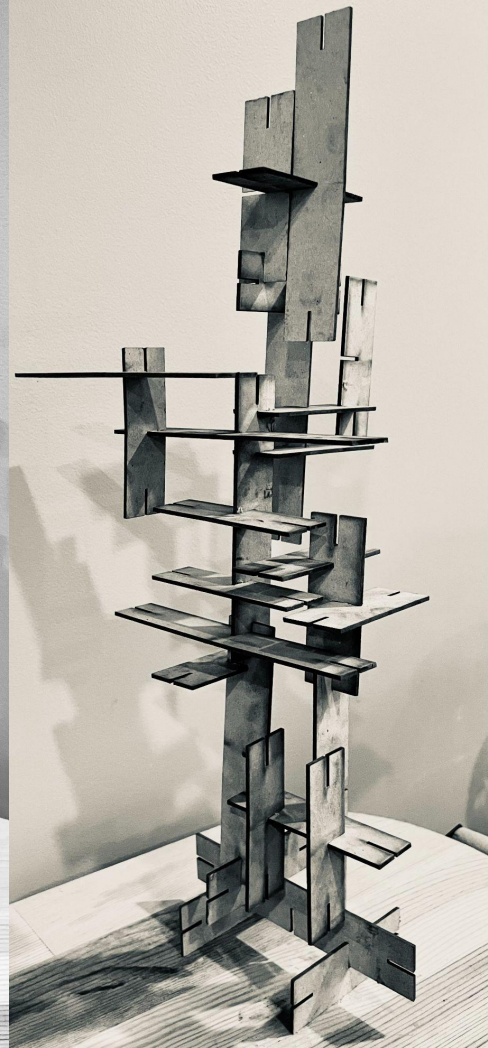
(Komorebi is a Japanese word referring to the light that filters through the levels of a tree). The properties overall goal is to make the partaker of the experience feel closely connected to nature through different perspectives. The structures also manipulate simple design concepts, in order to effect the emotions of the one experiencing it.



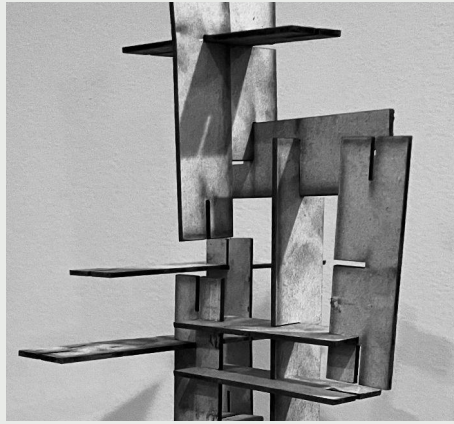
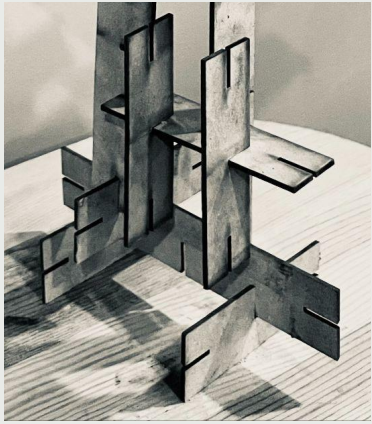
Iteration 1



Iteration 2

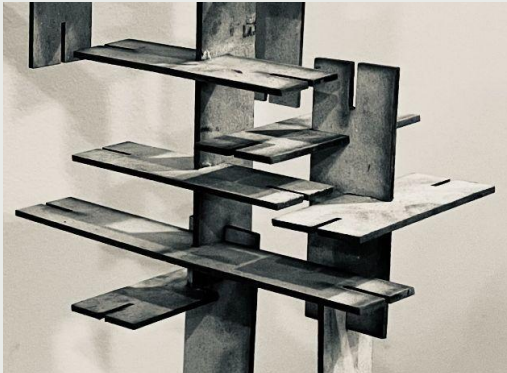


# Original Repetitive Parts Moments



Moment 1 = Joyous

Moment 2 = Claustrophobic



Moment 3 = Layered

## White Oak Wood

- Water & rot resistant (perfect for exterior uses)
- Reads warmly



## Buttglazed Glass & Textured Glass

- Blends interior & exterior spaces (textured glass manipulates this concept by preventing a visual connection to the exterior)

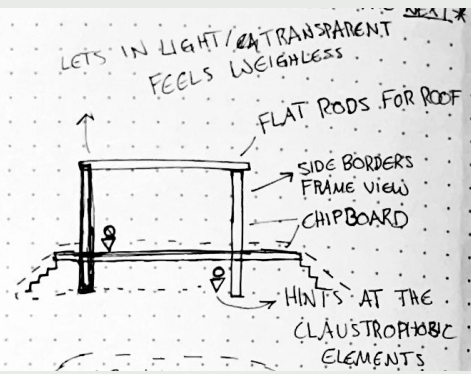


## Concrete

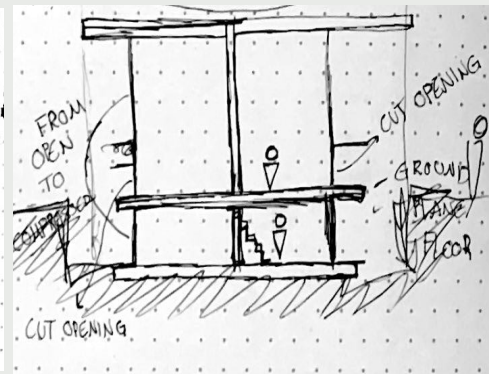
- Versatile
- Long lasting
- Plasticity



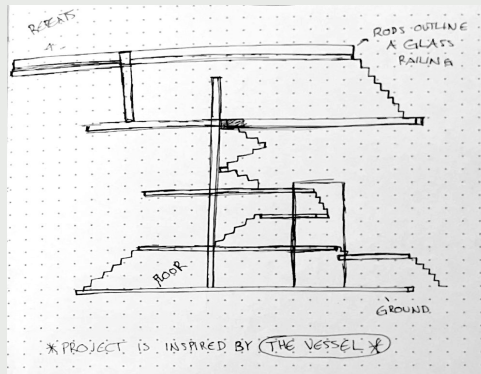
# Schematic Process:



Joyous

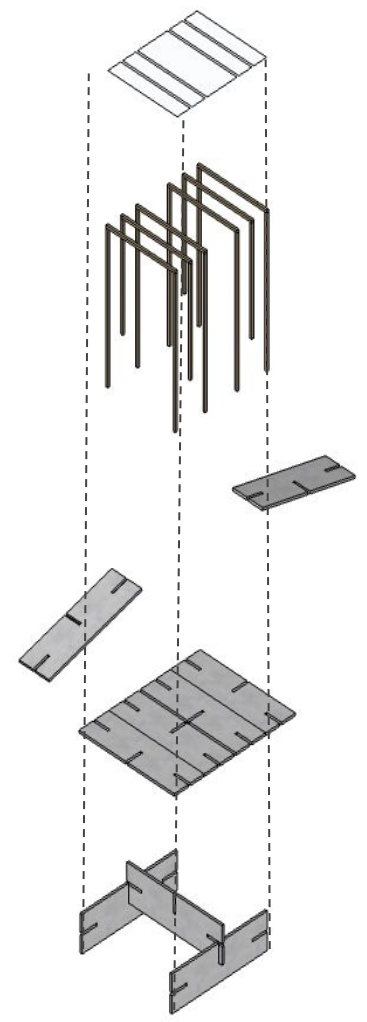


Claustrophobic

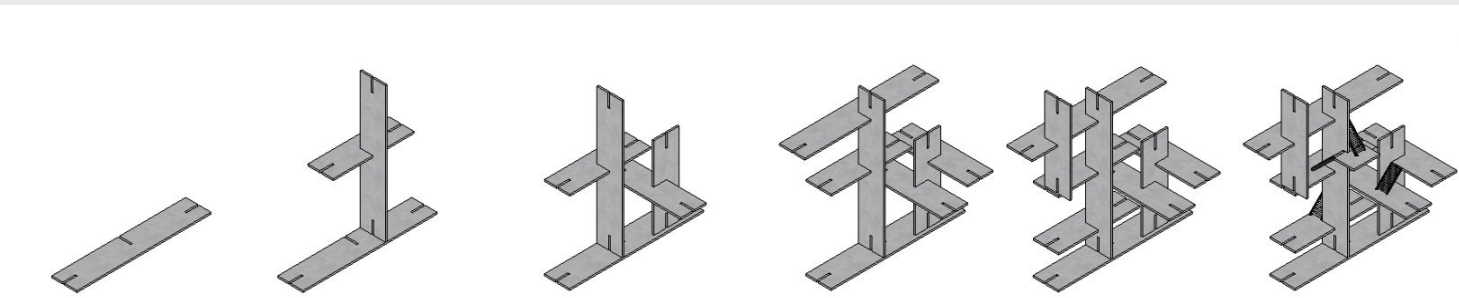


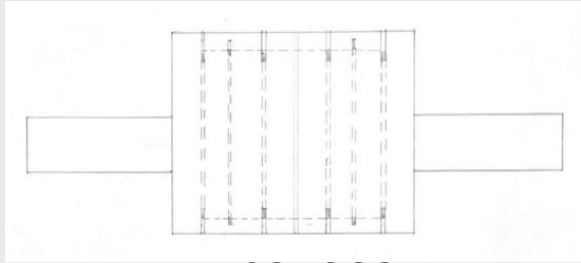
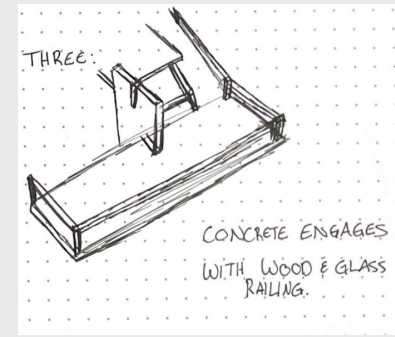
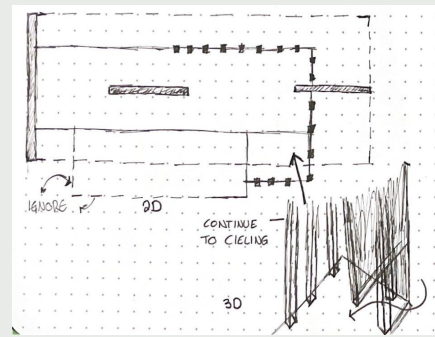
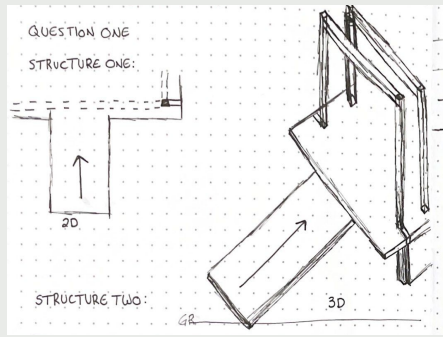
Layered

# Exploded Axonometric:

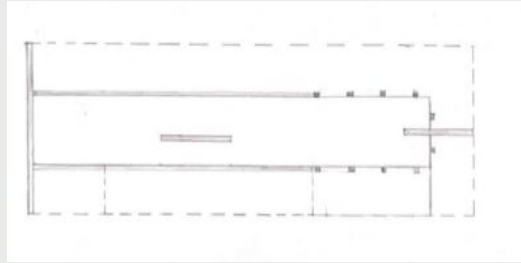


# Transformation Of Parts:

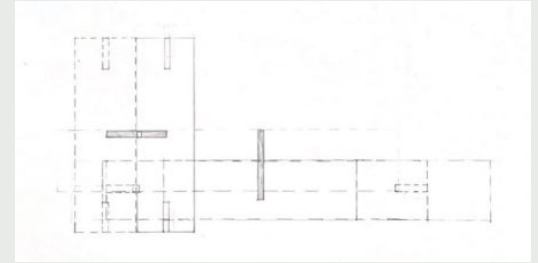




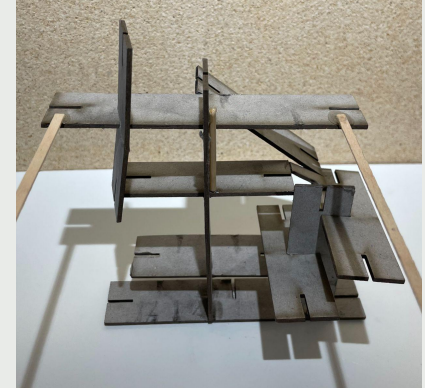
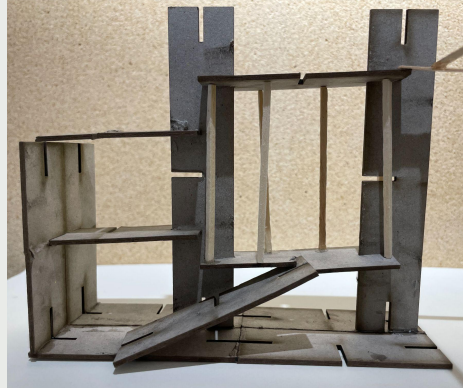
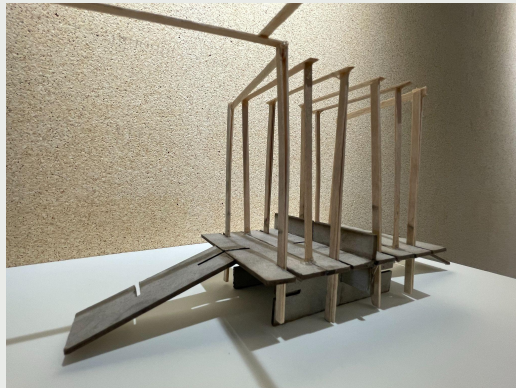
Joyous



Claustrophobic

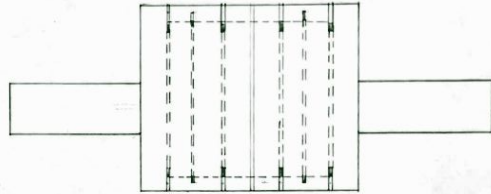


Layered

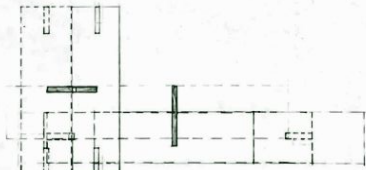




Claustrophobic

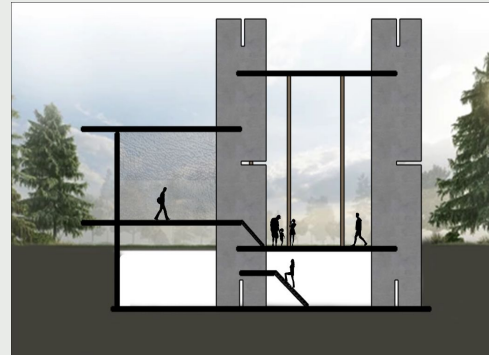


Joyous



Layered

Site Plan



Claustrophobic



Joyous



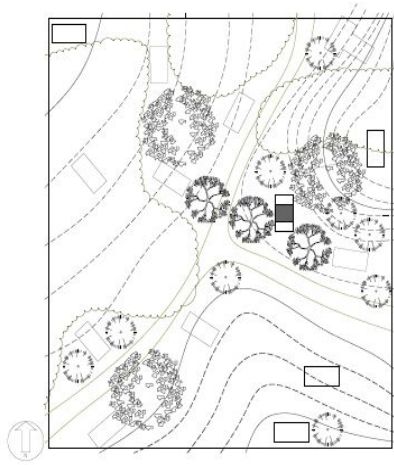
Layered

# Architectural Design 2

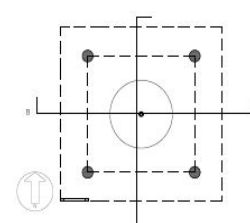
# Cabin In The Woods

Project Objective: To construct a cabin measuring 8,8,16 using only wood, masonry or straw. This cabin will be utilized for a relaxing activity.

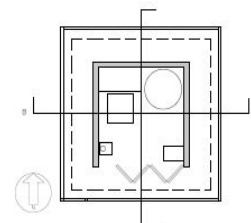
# Cabin CAD Drawings



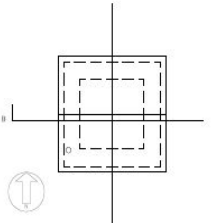
SITE PLAN  
SCALE: 1" = 20'-0"



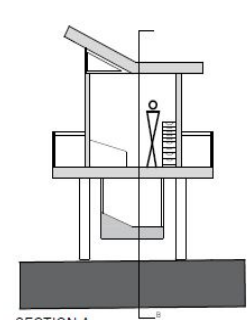
GROUND LEVEL PLAN



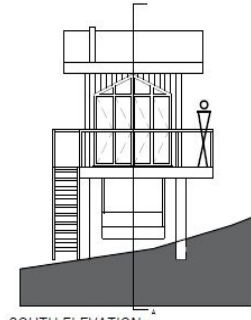
MAIN FLOOR PLAN



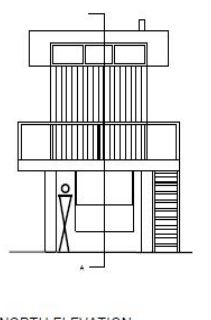
ROOF PLAN



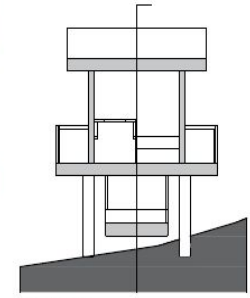
SECTION A



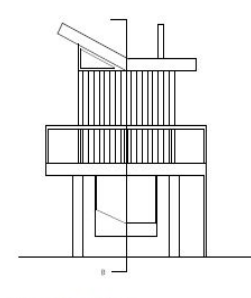
SOUTH ELEVATION



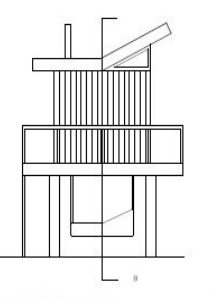
NORTH ELEVATION



SECTION B

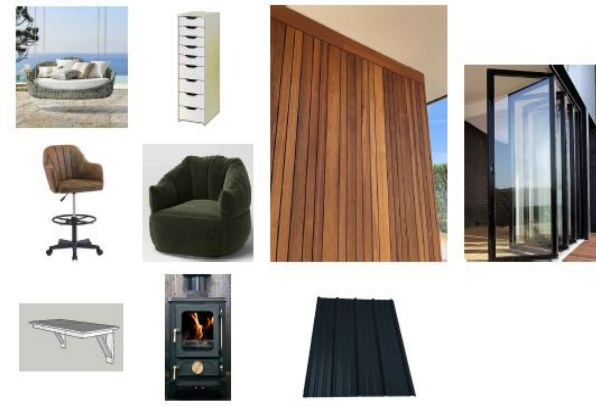


WEST ELEVATION



EAST ELEVATION

SCALE: 1/4" = 1'-0"



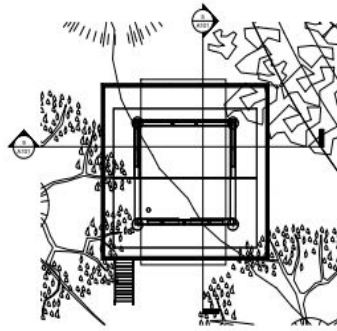
FURNITURE

MATERIALITY

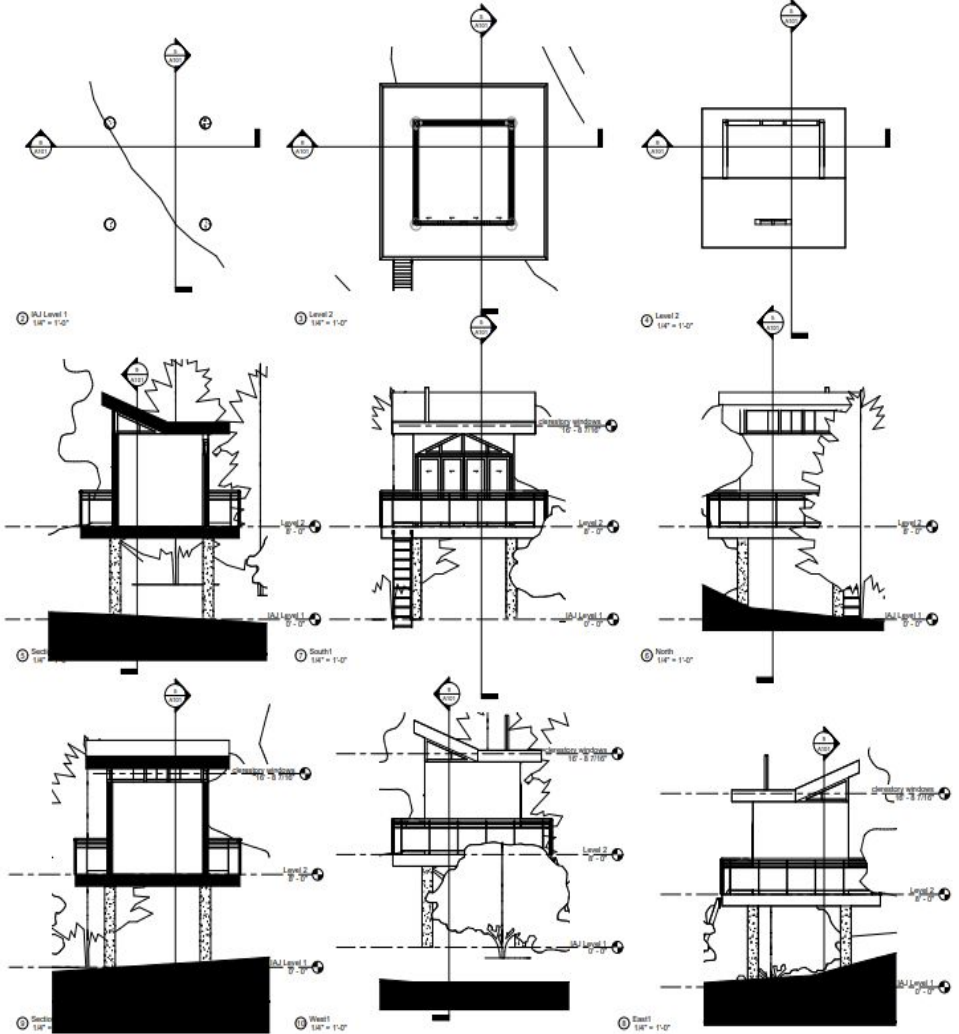
ISABELLA  
JOORABCHI  
2-27-25  
AD2  
PROFESSOR  
PASSAROTI



# Cabin Revit Drawings



Site  
1/4" = 1'-0"



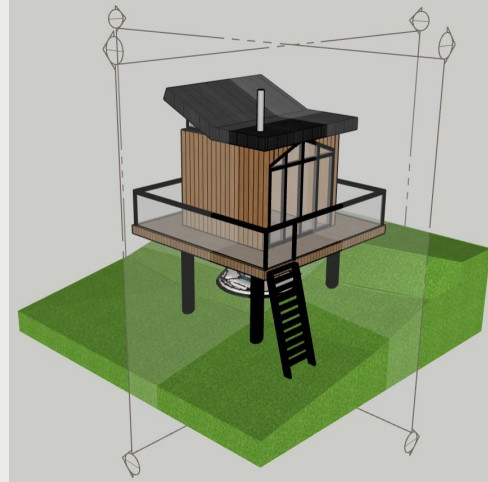
ISABELLA  
JOORABCHI

THREE LITTLE  
PIGS

CABIN STUDIO

A101

# Cabin Sketchup & Revit Renderings



① NORTH INTERIOR  
12' x 12'



② WEST INTERIOR  
12' x 12'



③ EXTERIOR 3 DIMENSIONAL VIEW  
12' x 12'

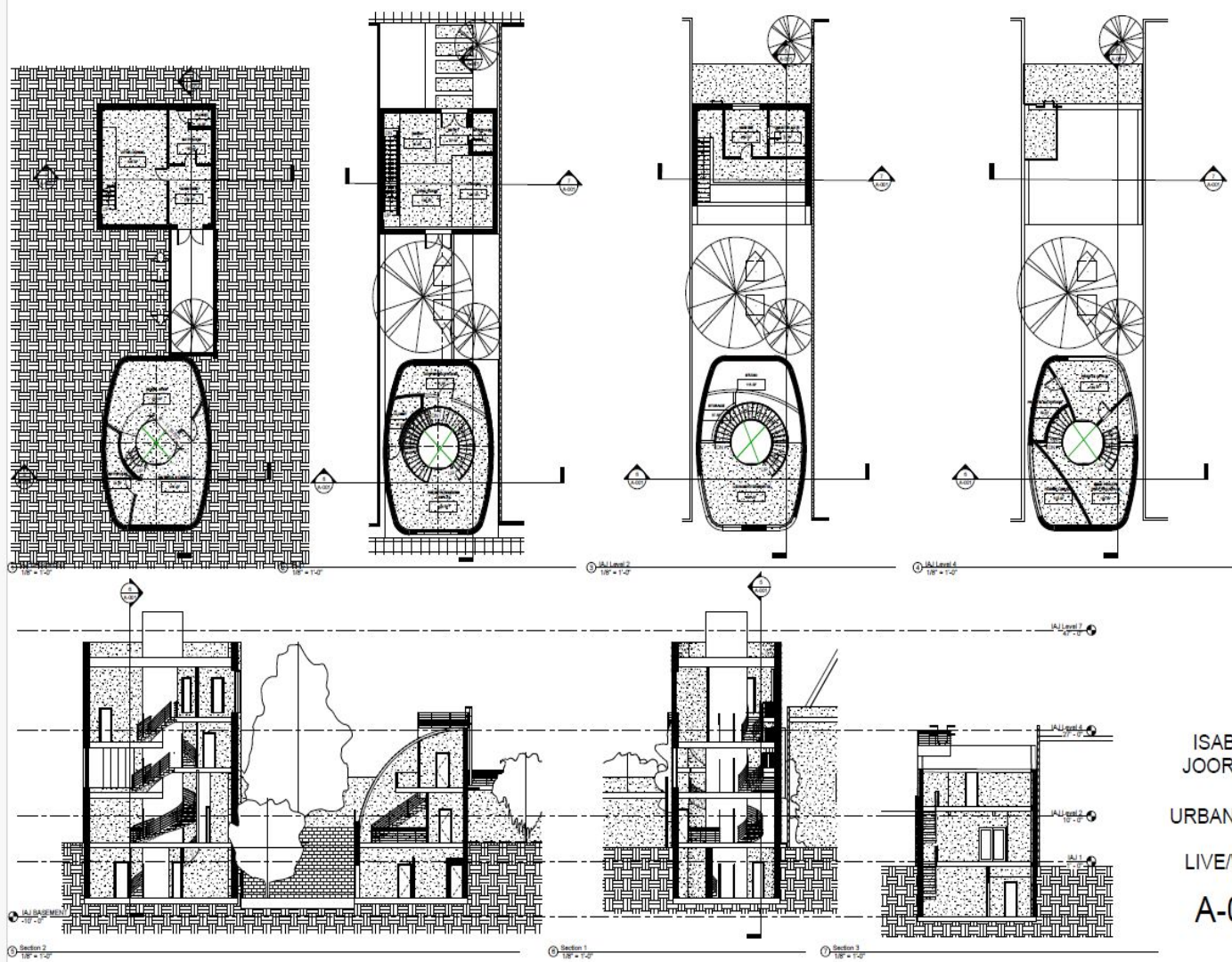


④ SOUTH VIEW  
12' x 12'

# Live/Work Project

Project Objective: Design an office for your architecture firm that exemplifies your style and design philosophy

# Live/Work Revit Drawings



ISABELLA  
JOORABCHI  
URBAN VISION  
LIVE/WORK  
A-001

# Live/Work Revit Renderings



① SOUTH WEST VIEW  
12' = 1"0"



② STREET VIEW RESIDENTIAL  
12' = 1"0"



③ COURTYARD VIEW RESIDENTIAL  
12' = 1"0"



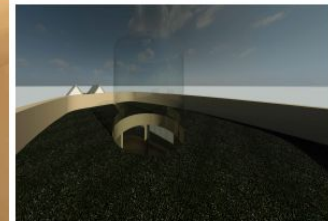
④ NORTH EAST VIEW  
12' = 1"0"



⑤ RESIDENTIAL INTERIOR  
12' = 1"0"



⑥ VERTICAL CIRCULATION  
12' = 1"0"



⑦ ROOF  
12' = 1"0"

ISABELLA  
JOORABCHI

URBAN VISION

LIVE/WORK

A-002

# Architectural Design 3

# Sustainable House

Project Objective: Your clients, a married couple, have purchased a five-acre wooded parcel of land in New York's Hudson Valley and has asked you to design a house on the site. The house is to depend minimally on the utility grid and is to be designed with passive and active green building design systems.

# Inspiration

The Solar Hemicycle designed by Frank Lloyd Wright

Elements I plan to implement in my design include:

- Organic shape
- Earth sheltered North side
- Glazing on South side to maximize lighting
- Integration with the site

The Tassel House:

- Utilized vertical circulation to bring light into the space



## Design Response

- Create a space that not only fits the functions but also expresses the creativity of the couple
- Create a sanctuary separate from the busy world around them



## Materials

- Structural glazing including sliding glass walls)
- Stained oak wood
- Concrete



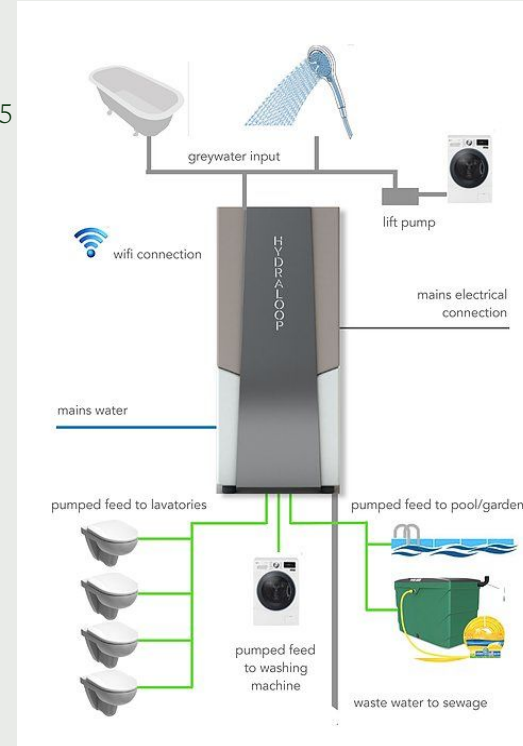
# Sustainable Systems

## Concrete?

- Tom Schuler
- Same raw materials, same equipment
- Less limestone, lower kiln temperature
- Cured with CO2 from captured waste gas produced by industrial facilities (in the form of citric acid)
- The reaction with the cement breaks the carbon apart to form limestone (the main binding agent)
- This means that if a bridge made of this concrete were ever destroyed no CO2 would be emitted because it doesn't exist within the concrete anymore
- Results in a 30% reduction of CO2 emissions, reduces cement footprint by 70%, and saves trillions of gallons of water
- Stronger, more durable concrete and instead of a near month curing time, it only takes 24 hours
- A little more than half a mile of road made from this concrete consumes more carbon than 100,000 trees would in a year

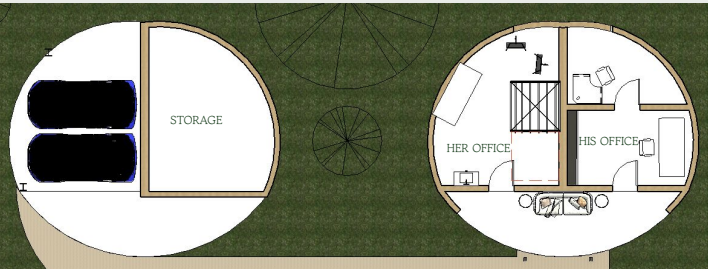
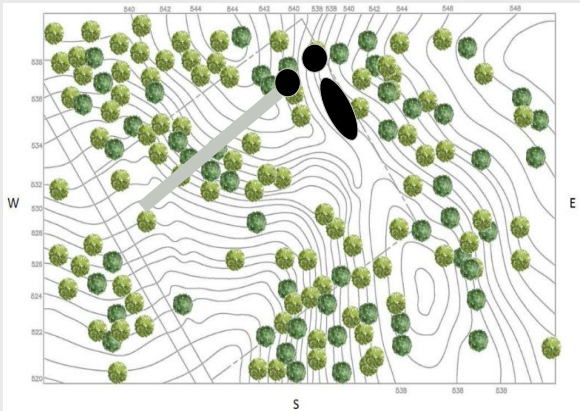
## Hyraloop H300 Grey Water System:

- Volume = 80 gallons
- Cleaning Capacity per day = 95 gallons
- Takes grey water from a shower, bath, and washing machine
- Distributes reusable water to toilets and washing machine
- Recycles up to 95% of shower water, and 50% of water from the washing machine
- LED light indications
- Will use back up water inlet if grey water system doesn't produce enough water
- Controlled using a mobile device

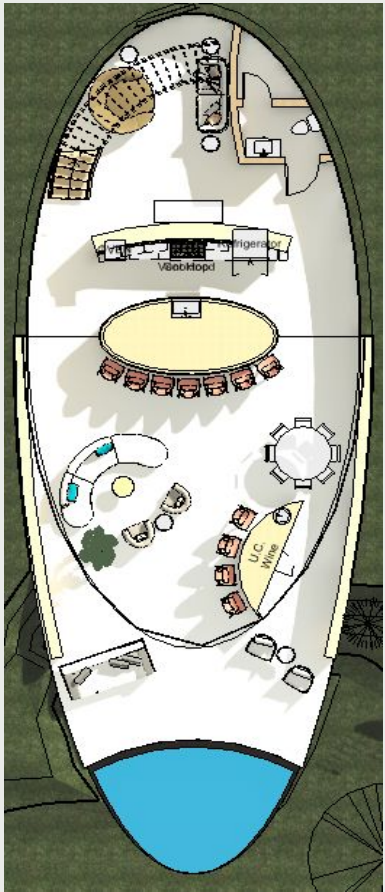


# Site Orientation & Floorplans

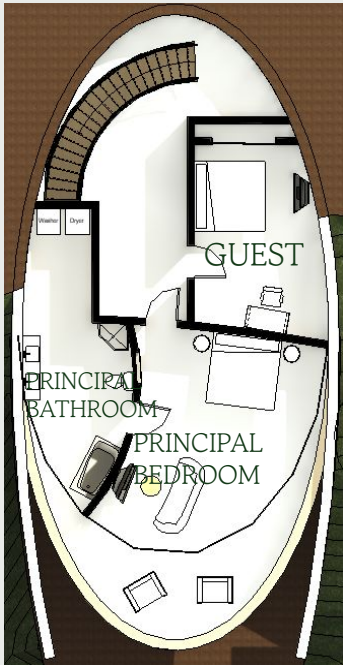
- Main house is 3,248 Sq ft  
(justified because every space has a purpose)
- Office is 532 Sq Ft



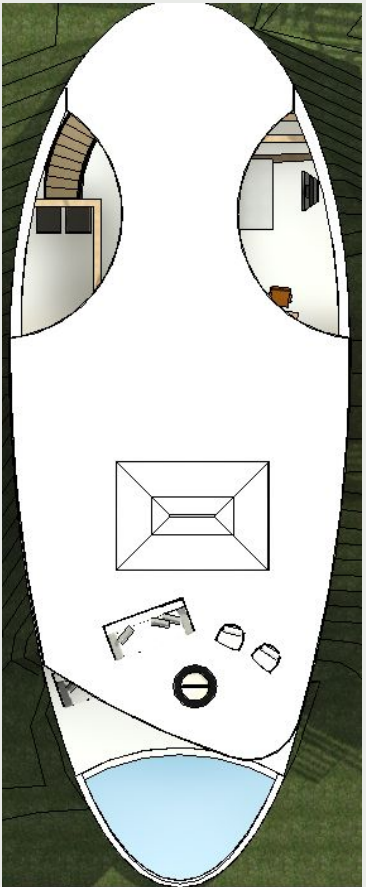
SHED/CARPORT & OFFICE



FIRST FLOOR



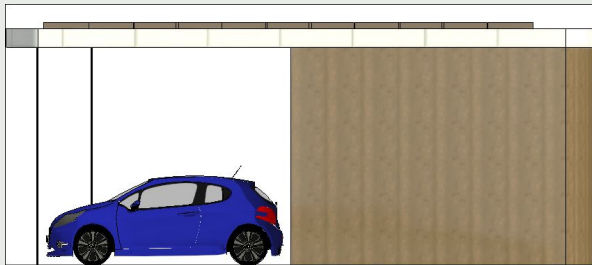
SECOND FLOOR



ROOF TERRACE



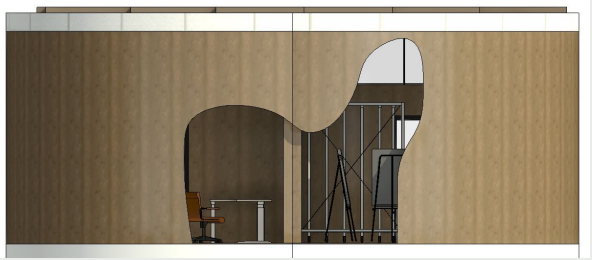
# Shed & Office Elevations



SHED SOUTH ELEV.



OFFICE SOUTH ELEV.

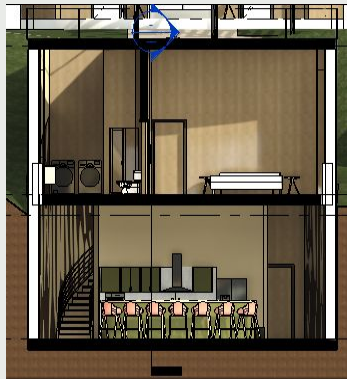


OFFICE NORTH ELEV.

# Main House Elevation & Sections



HOUSE SOUTH ELEV.



CROSS SECTION



LONG SECTION

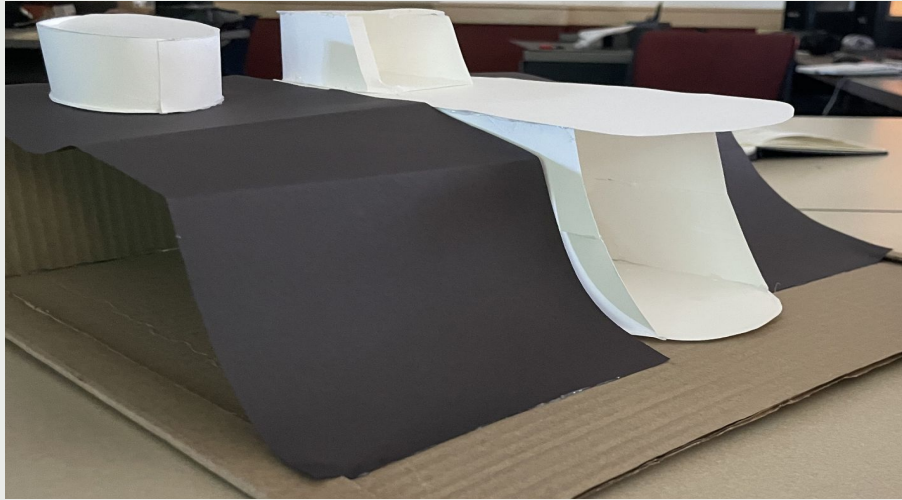
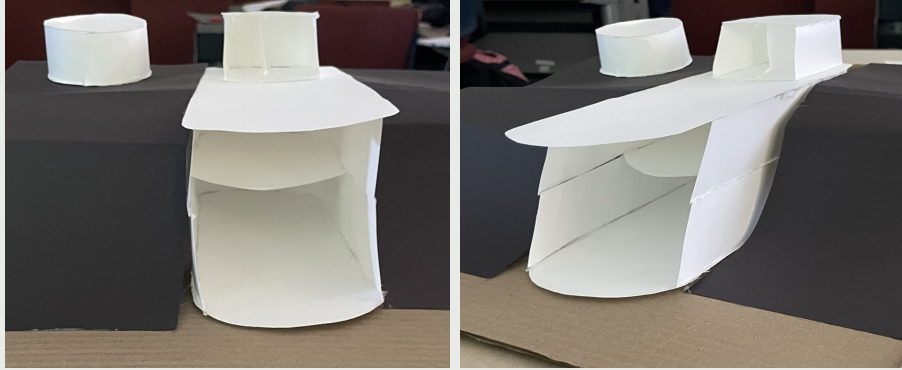
# Renderings



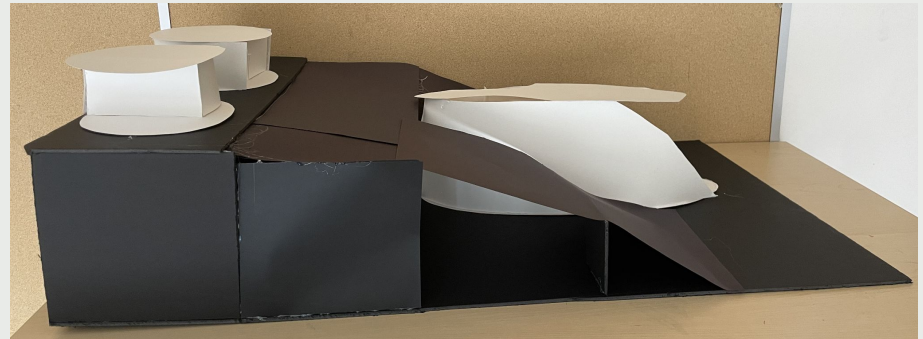
# Renderings



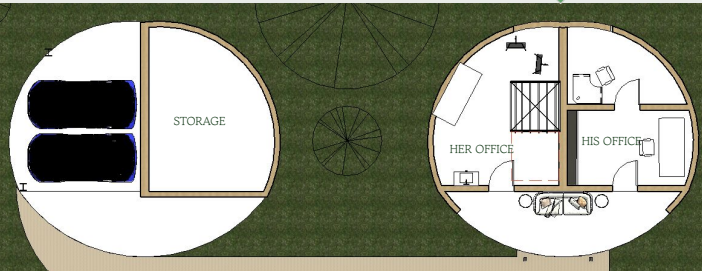
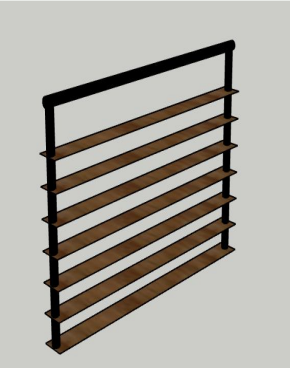
Model Representations  $\frac{1}{8}'' = 1'-0''$



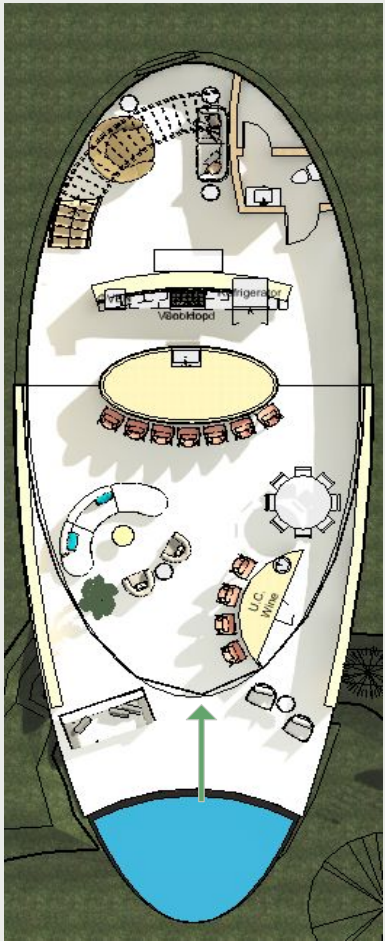
Model Representations  $\frac{1}{4}'' = 1'-0''$



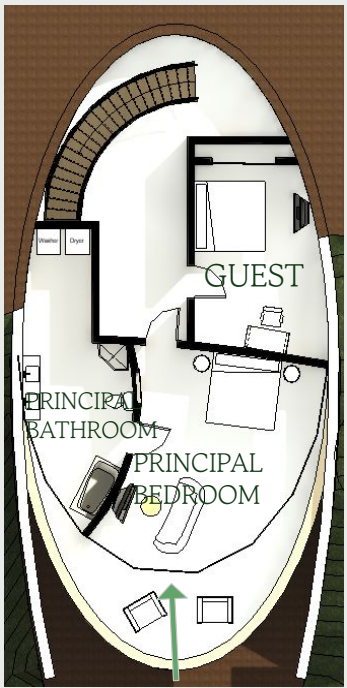
# Screening System Locations



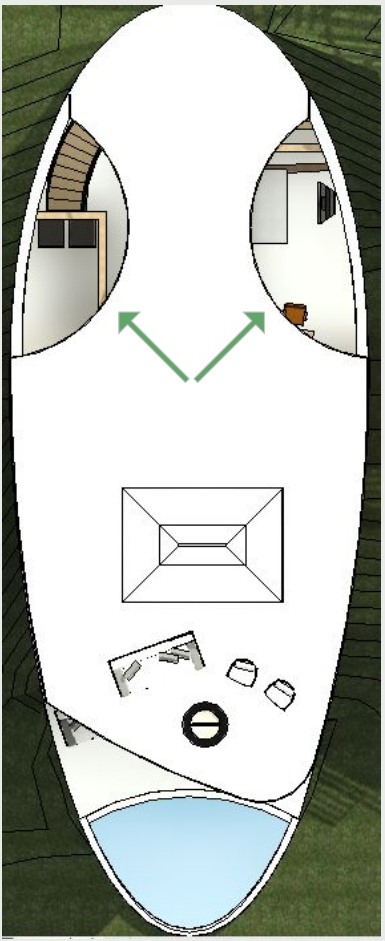
SHED/CARPORT & OFFICE



FIRST FLOOR



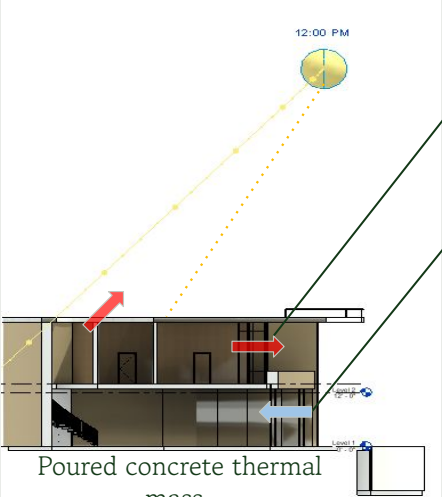
SECOND FLOOR



ROOF TERRACE



# Passive Heating & Cooling Sections (Daytime/Nighttime In Summer)



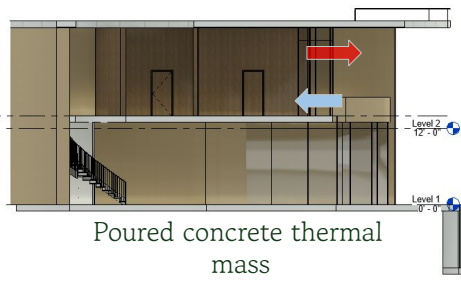
Operable sliding glass wall released hot air

Operable glass wall draws in cool air

→ Passive heat release

→ Passive cooling

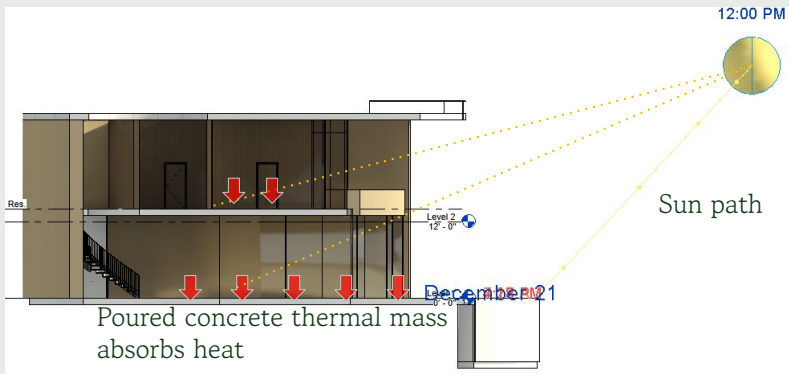
Poured concrete thermal mass



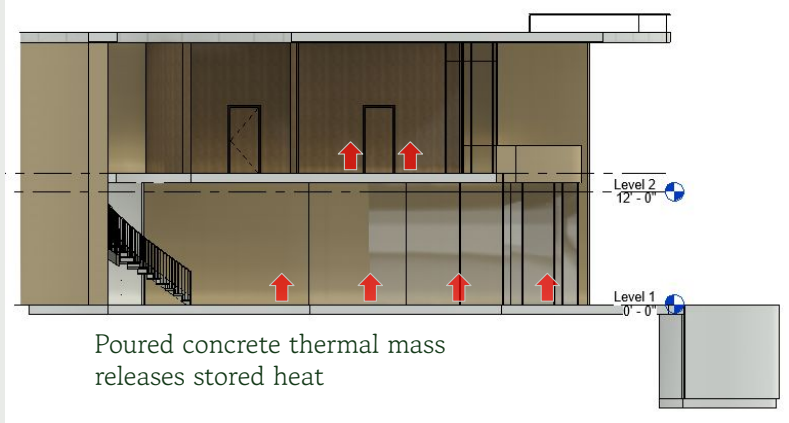
→ Passive heat release  
→ Cooling

Poured concrete thermal mass

# Passive Heating & Cooling Sections (Daytime & Nighttime In Winter)



Poured concrete thermal mass absorbs heat



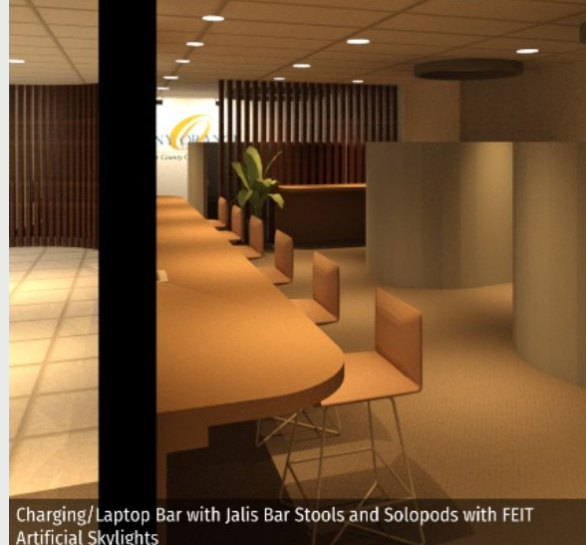
Poured concrete thermal mass releases stored heat

# Architectural Design 4

# First Class

Project Objective: Located in the basement of Harriman Hall at the Suny Orange Community College is a space used extensively and yet lacking in functionality. We chose to update this space due to its uninviting, outdated, and inefficient characteristics.

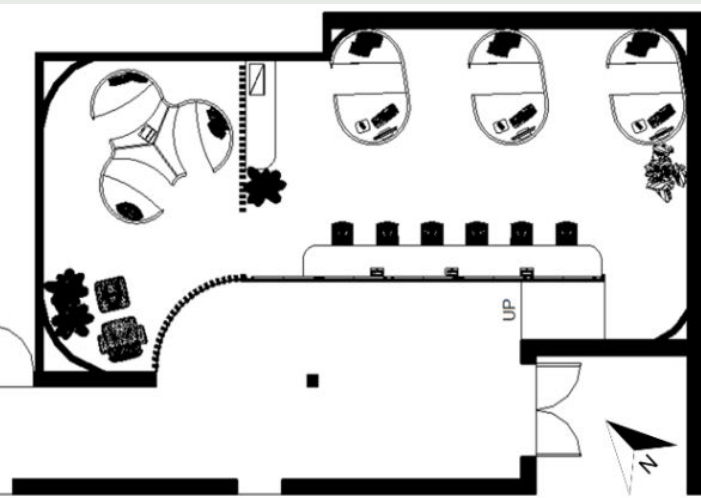
Our goal was to create an inviting, quiet, and comfortable space for a variety of students to get work done, join zoom meetings on campus, and escape the classroom.



Charging/Laptop Bar with Jalis Bar Stools and Solopods with FEIT Artificial Skylights



Two Students Studying in the Tripod



Group Study Room With Custom Tripod Furniture, Eames and Charles Chair, Banana Plant, Operable Andor Willow Wood Divider, and FEIT Artificial Skylight



Student Joining A Zoom Meeting In A Solopod



AliExpress  
Style 8 Glass



Eames &  
Charles Chair



TEMU  
Banana Plant, Monstera,  
Dracaena



Cabinet Parts  
Nepal  
Teak Fine Grain  
Finish Laminate



KOVI Fabrics  
Slate Blue Solid  
Woven Plain  
Upholstery



Benjamin Moore  
Paper White Paint



Partition Closed

Partition Open



Feit Electric Vista  
Artificial Skylight  
LED Ceiling Flush  
Mount Light



FLOR  
It's Snow Problem  
(Chalk)  
Carpet Squares



Teak Wood  
Boards



Inoperable Andor Willow Wood & Glass Room Divider with Glass AliExpress Curtain Wall



Charging/Laptop Bar with Jalis Bar Stools, Banana Plant, Countertop with Previously Existing Microwave, Avanti Mini Fridge, FEIT Artificial Skylight, and Operable Andor Willow Wood Divider



Inoperable Andor Willow Wood & Glass Room Divider with Glass AliExpress Curtain Wall

# The Pocket

Project Objective: Renovate and improve a public park located in Middletown New York.

## Project 2 – The Park Project

# The Pocket

The Pocket is an urban escape — a lush, immersive park where entertainment meets tranquility. Designed to celebrate nature and foster community connection, it pulses with life while offering moments of calm. Native plants that flourish alongside sustainable technologies and acoustic design ensures every gathering, performance, or conversation feels intimate and serene. Surrounded by the buzz of city life, The Pocket becomes a living oasis — a place to recharge, reconnect, and relax in the beauty of the outdoors.





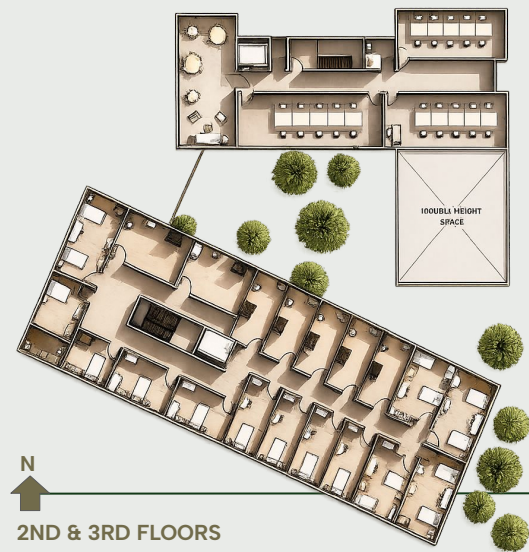
# The Evergreen Youth Center

Project Objective: Design housing and education facilities for displaced traumatized youths in Columbus, Indiana.





BASEMENT



2ND & 3RD FLOORS



# Construction Drawings

ARC 106 - Building Materials 2  
ARC 206 - Working Drawings 2

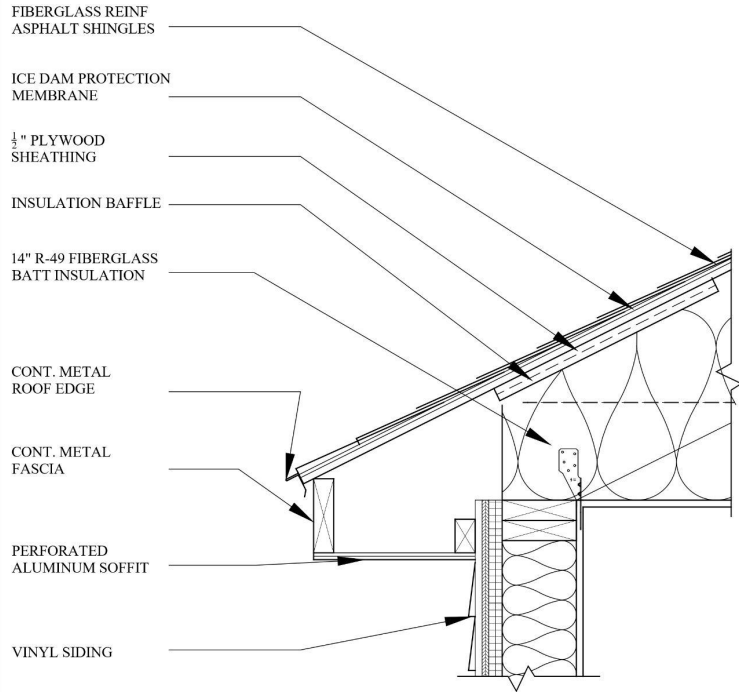
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# Building Materials



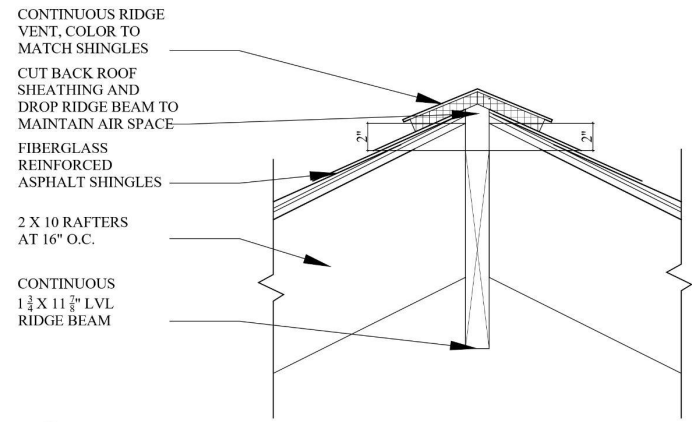






1 ROOF EAVE DETAIL  
 A-5 SCALE: 1 1/2" = 1'-0"

TYPICAL STRUCTURAL DETAILS	CLASS:	ARC 106 - LAB	<b>A-5</b>
	REVIEWED BY:	AW	
	PROJECT #	5	
	REV. DATE	DATE: 04-09-25	
DRAWN BY: ISABELLA JOORABCHI			



2 ROOF EAVE DETAIL  
 A-5 SCALE: 1 1/2" = 1'-0"

TYPICAL STRUCTURAL DETAILS	CLASS:	ARC 106 - LAB	<b>A-5</b>
	REVIEWED BY:	AW	
	PROJECT #	5	
	REV. DATE	DATE: 04-09-25	
DRAWN BY: ISABELLA JOORABCHI			

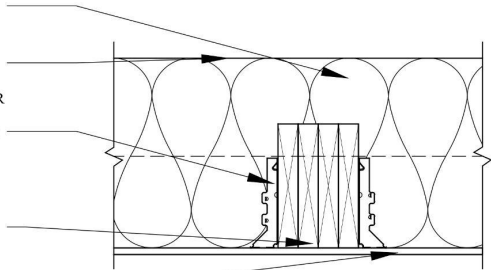
14" R-49 FIBERGLASS  
BATT INSULATION

2 X 8 CEILING JOISTS  
AT 16" O.C.

LUS28 METAL JOIST HANGER  
AT EACH CEILING  
JOIST-GIRDER CONNECTION

(4) 2 X 10 GIRDER TO BE  
FLUSH WITH CEILING  
JOISTS AT BOTTOM

$\frac{1}{2}$ " GYPSUM BOARD



**3** FLUSH GIRDER DETAIL  
**A-5** SCALE: 1  $\frac{1}{2}$ " = 1'-0"

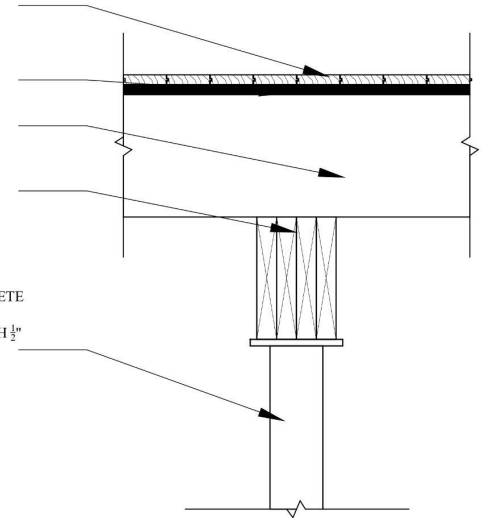
1 X 4 OAK FLOORING

$\frac{3}{4}$ " TONGUE AND  
GROOVE PLYWOOD  
SUBFLOOR

2 X 10 FLOOR  
JOISTS AT 16" O.C.

(4) 2 X 10"  
GIRDER

4" DIAMETER CONCRETE  
FILLED STEEL PIPE  
LALLY COLUMN WITH  $\frac{1}{2}$ "  
TOP BEARING PLATE



**4** DROP GIRDER DETAIL  
**A-5** SCALE: 1  $\frac{1}{2}$ " = 1'-0"

TYPICAL STRUCTURAL  
DETAILS

CLASS: ARC 106 - LAB  
REVIEWED BY: AW  
PROJECT # 5  
REV. DATE

**A-5**

DATE: 04-09-25

DRAWN BY: ISABELLA JOORABCHI

TYPICAL STRUCTURAL  
DETAILS

CLASS: ARC 106 - LAB  
REVIEWED BY: AW  
PROJECT # 5  
REV. DATE

**A-5**

DATE: 04-09-25

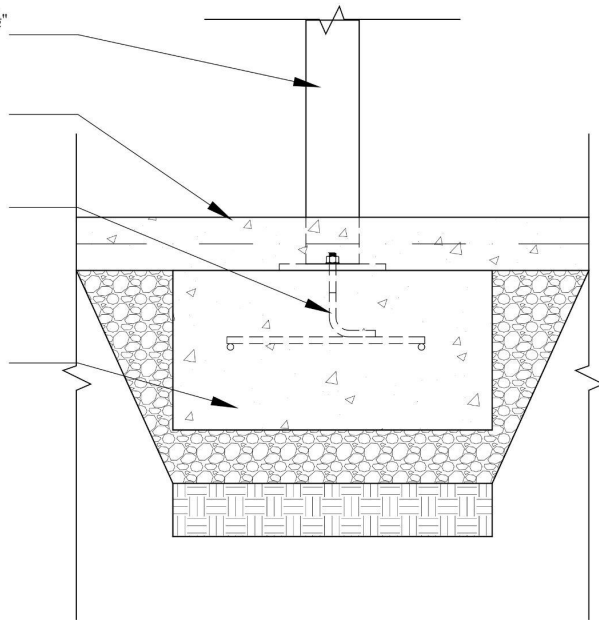
DRAWN BY: ISABELLA JOORABCHI

4" DIAMETER CONCRETE  
FILLED STEEL LALLY  
COLUMN WITH 8" X 8" X 1/2"  
BASE PLATE

4" REINFORCED  
CONCRETE SLAB

(2) 1/2" DIAMETER  
ANCHOR BOLTS

24" X 24" X 12"  
CONCRETE  
FOOTING  
WITH (2) #4  
REBAR EACH  
WAY

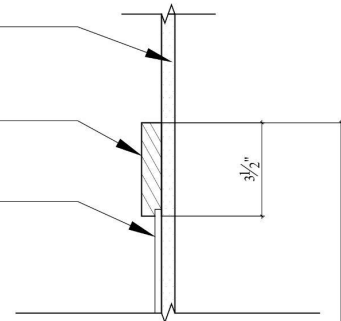


5 COLUMN FOOTING DETAIL  
SCALE: 1 1/2" = 1'-0"

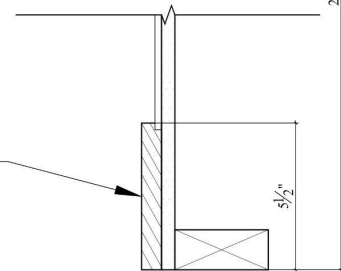
1/2" GYPSUM BOARD  
TO BE PAINTED

1 X 4 STAINED  
WOOD TRIM  
RABBET AT REAR  
TO OVERLAP 1/4"  
PLYWOOD

1/4" PLYWOOD  
TO BE STAINED



1 X 6 STAINED  
WOOD TRIM  
RABBET AT REAR  
TO OVERLAP  
PLYWOOD



6 WAINSCOT DETAIL  
SCALE: 3" = 1'-0"

TYPICAL STRUCTURAL  
DETAILS

DRAWN BY: ISABELLA JOORABCHI

CLASS: ARC 106 - LAB

REVIEWED BY: AW

PROJECT # 5

REV. DATE

A-5

DATE: 04-09-25

TYPICAL STRUCTURAL  
DETAILS

DRAWN BY: ISABELLA JOORABCHI

CLASS: ARC 106 - LAB

REVIEWED BY: AW

PROJECT # 5

REV. DATE

A-5

DATE: 04-09-25





FRONT ELEVATION



REAR ELEVATION

ALL DESIGN TEAM & INTELLECTUAL  
PROPERTY RIGHTS RESERVED

**FINAL PROJECT  
ADDITION TO  
EXISTING**

REVISIONS:

NO.	DESCRIPTION	DATE

DESIGN DATE: 06-17-21  
 DESIGN BY: AW  
 DRAWN BY: JJ  
 CHECKED BY: AW  
 REVISIONS BY: AW  
 SHEET NO.

**A-001**



2x10 ROOF RAFTERS  
AT 16" ON CENTER

FIBERGLASS REINFORCED STEEL SEALING CASUAL ROOF  
SURFACE OVER ASPHALT IMPREGNATED FELT PAPER OR  
ROOFING UNDERLAYMENT.

ICE DAM PROTECTION MEMBRANE  
TO BE A MINIMUM OF 1/2" PLYWOOD  
OUTSIDE FACE OF AN EXTERIOR WALL.

1/2" CDX PLYWOOD  
BOSS SHEATHING,  
METAL DROPPED.

ALLOW 1/2" GAP AT  
JUNCTIONS.

1/4" GYPSUM BOARD  
WITH  
VENTED VINYL SIDING  
AND ALL INSULATION OVER.

2x6 SUB-FASCIA  
2x6 GABLE END PLATE.

HORIZONTAL  
VINYL SIDING

AIR FILTRATION AND  
VAPOR BARRIER

1" FIBERGLASS BATT  
INSULATION

1/2" CDX PLYWOOD  
WALL SHEATHING OVER  
WALL.

R-1 FIBERGLASS BATT  
INSULATION AT STUD SPACES

2x6 WOOD WALL STUDS  
AT 16" ON CENTER

2x6 SOLID PLATE

3x8 RIM JOIST

PRESSURE TREATED 2x4 SILL  
PLACED ON SILL BARS WITH 1/2"  
DIAMETER ANCHOR BOLTS AT  
48" ON CENTER

2" CONTINUOUS EXTRUDED  
POLYSTYRENE INSULATION

THIRD PROOFING ON  
EXTERIOR OF FOUNDATION  
WALL.

4" CONCRETE BLOCK WITH  
REINFORCING WALL  
REINFORCEMENT AT 16" ON C.

4" OF CONCRETE FOOTING  
WITH 4# CONTINUOUS  
REINFORCING BARS AND  
2# C1

2" DRAINAGE KEY

4" DRAINABLE PVC FOOTING DRAIN  
SECTION FINISHED TO MATCH EXISTING  
FASCIAS & COVER

12

12" R-49 BATT INSULATION  
IN CHANGING

2x6 CEILING JOISTS AT  
16" ON CENTER

INSULATION Baffle

1/2" GYPSUM BOARD ON  
ALL INTERIOR WALLS  
AND CEILING

MINI-TONGUE AND GROOVE  
WOOD WALL BASE TRIM

1x4 OAK WOOD  
FINISHED FLOORING

1/4" TONGUE & GROOVE  
PLYWOOD SHEATHING  
SUB FLOOR, AT 16" AND HALF

2x10 FLOOR JOISTS AT 16"  
ON CENTER

R-19 FIBERGLASS BATT  
INSULATION IN JOIST SPACES

R-19 FIBERGLASS BATT  
INSULATION IN JOIST SPACES

4" POLISHED CONCRETE SLAB WITH  
4# 10# W.W. REINFORCING BARS  
EXTENDING THROUGH ALL USE  
POLYETHYLENE VAPOR BARRIER

1" COMPACTED GRAVEL BASE

PERFORATED ALUMINUM SOFFIT

TOP OF FIRST FLOOR SLABLOOR  
LEVEL = +10'-11 1/2"

TOP OF FOUNDATION WALL  
LEVEL = +10'-0"

TOP OF FOOTING  
LEVEL = +10'-0"

FIBERGLASS REINFORCED  
ASPHALT SHINGLES

ICE DAM PROTECTION  
MEMBRANE

1/2" PLYWOOD  
SHEATHING

INSULATION Baffle

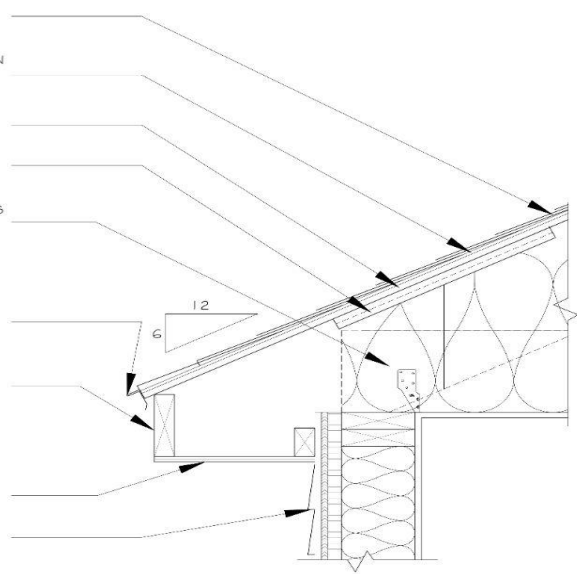
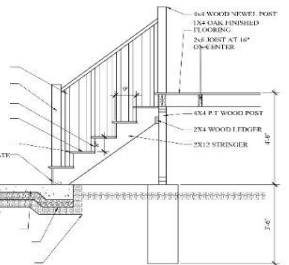
14" R-49 FIBERGLASS  
BATT INSULATION

CONT. METAL  
ROOF EDGE

CONT. METAL  
FASCIA

PERFORATED  
ALUMINUM SOFFIT

VINYL SIDING



1 ROOF EAVE DETAIL  
A-5 SCALE: 1 1/2" = 1'-0"

ALL PRODUCTION & INTELLECTUAL  
PROPERTY RIGHTS RESERVED

### FINAL PROJECT ADDITION TO EXISTING

REVISIONS	NO.	DESCRIPTION	DATE

ISSUED DATE: 05.07.24  
 DESIGNED BY: AW  
 CHECKED BY: HJ  
 DRAWN BY: AW  
 REVIEWED BY: AW

SHEET NO.  
**A-001**

PROJECT: 25-000      PLANS: 01.0



# Working Drawings 2













