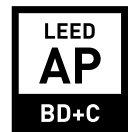
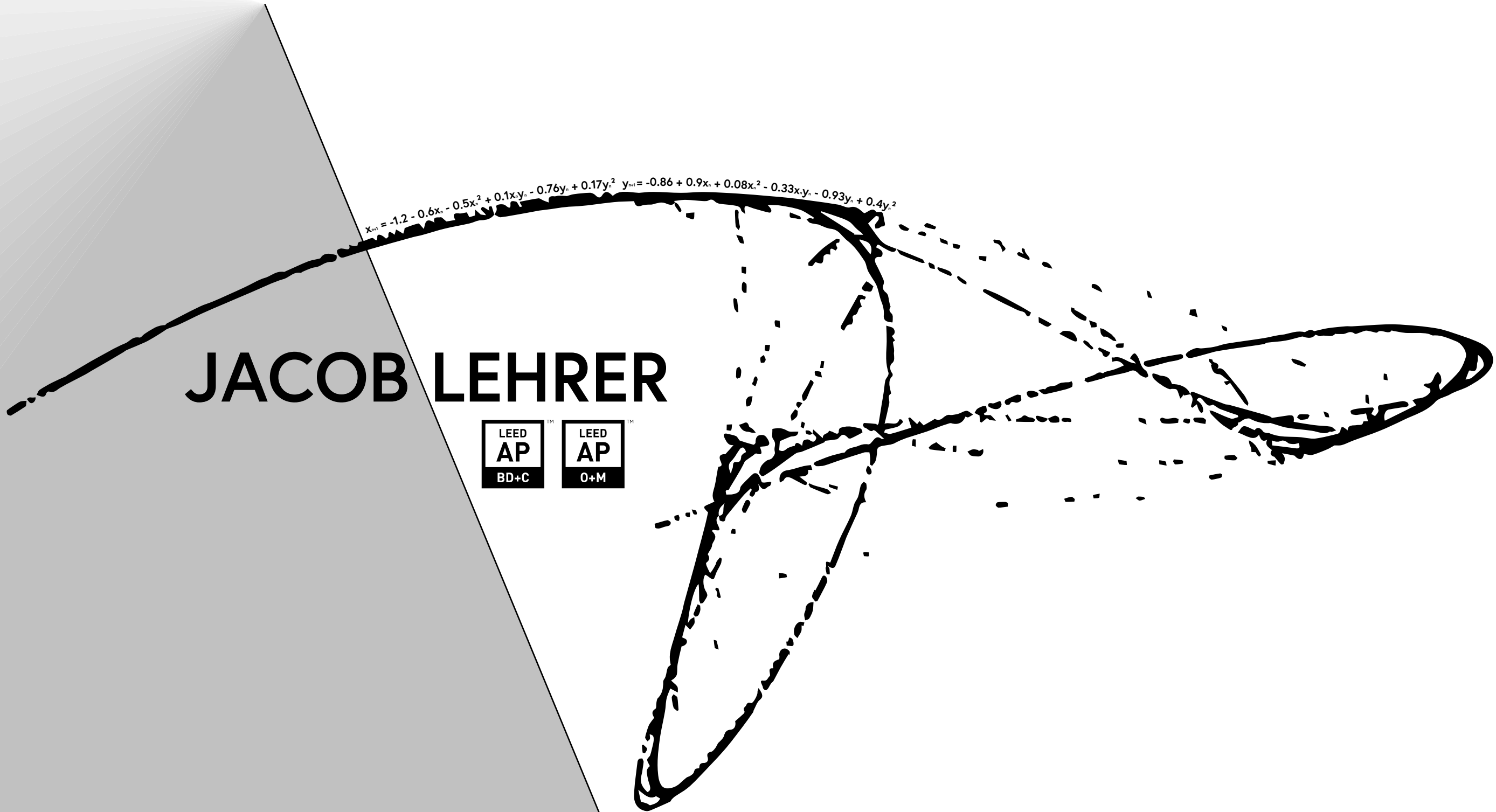


JACOB LEHRER



$$x_{n+1} = -1.2 - 0.6x_n - 0.5x_n^2 + 0.1x_n y_n - 0.76y_n + 0.17y_n^2 \quad y_{n+1} = -0.86 + 0.9x_n + 0.08x_n^2 - 0.33x_n y_n - 0.93y_n + 0.4y_n^2$$





Solar Decathlon 2023 - Boston Bay Builders

2023

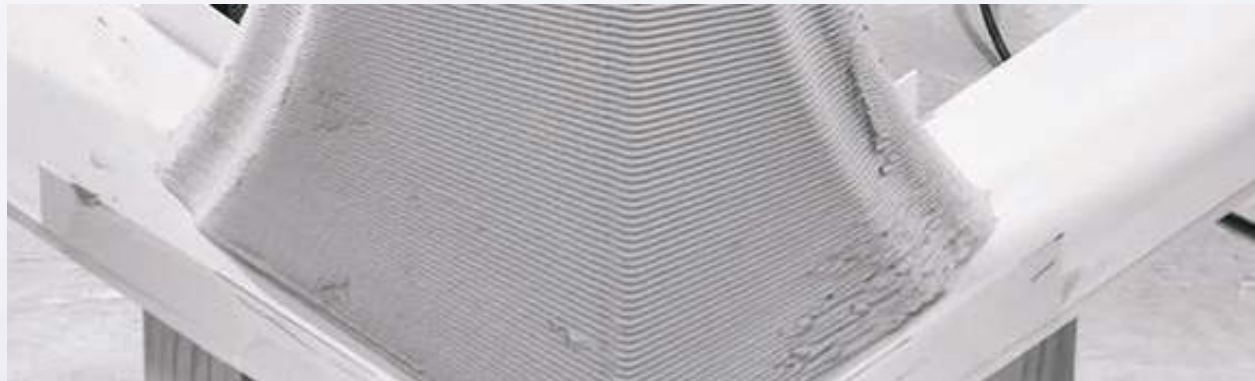
Page 4-6



Greenhouse Apartment Complex

2021

Page 13-15



MIT Innovation Hub

2022

Page 7-9



Home for an Artist

2021

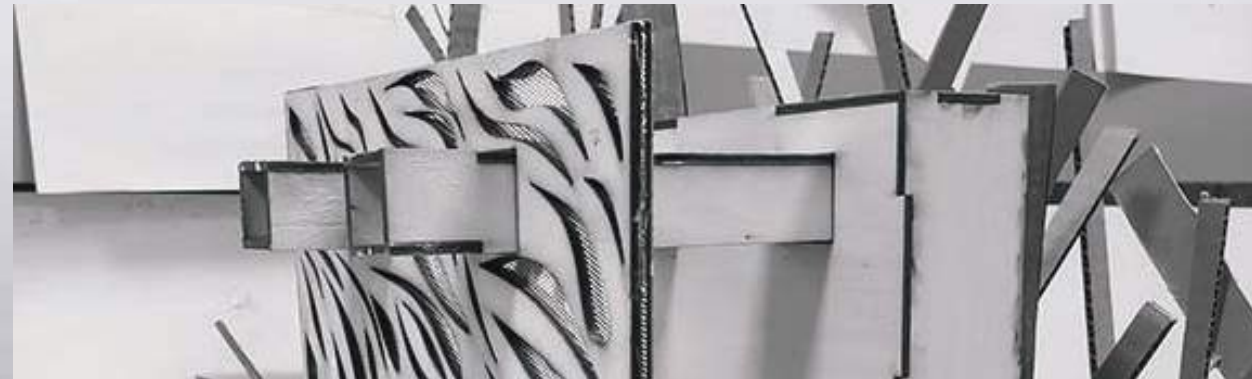
Page 16-18



Net-Zero Makerspace for Lowell

2022

Page 10-12



Flow Pavillion

2019

Page 19-21



Personal Projects

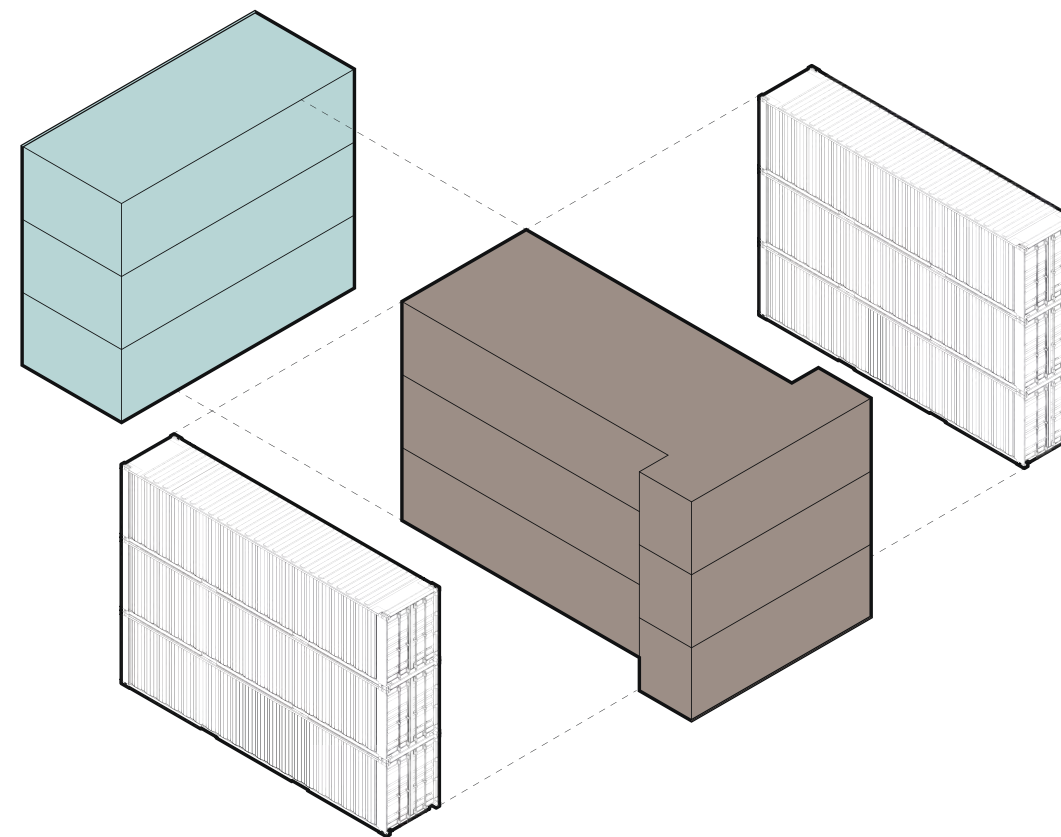
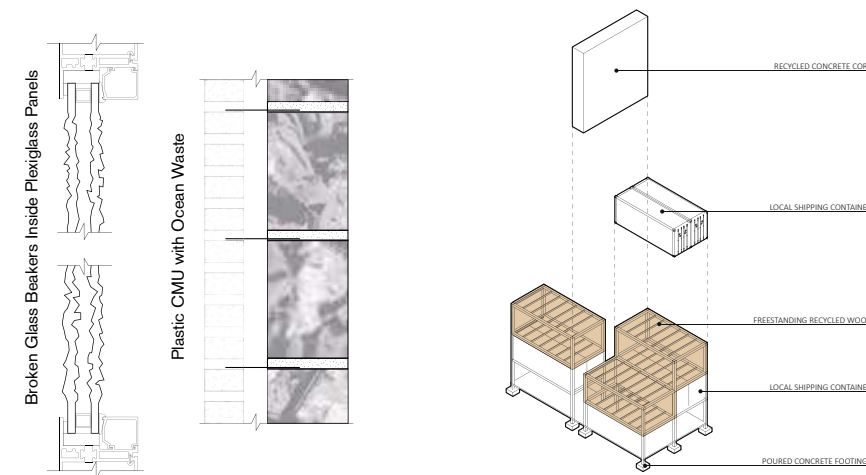
Page 22

Solar Decathlon 2023 Entry

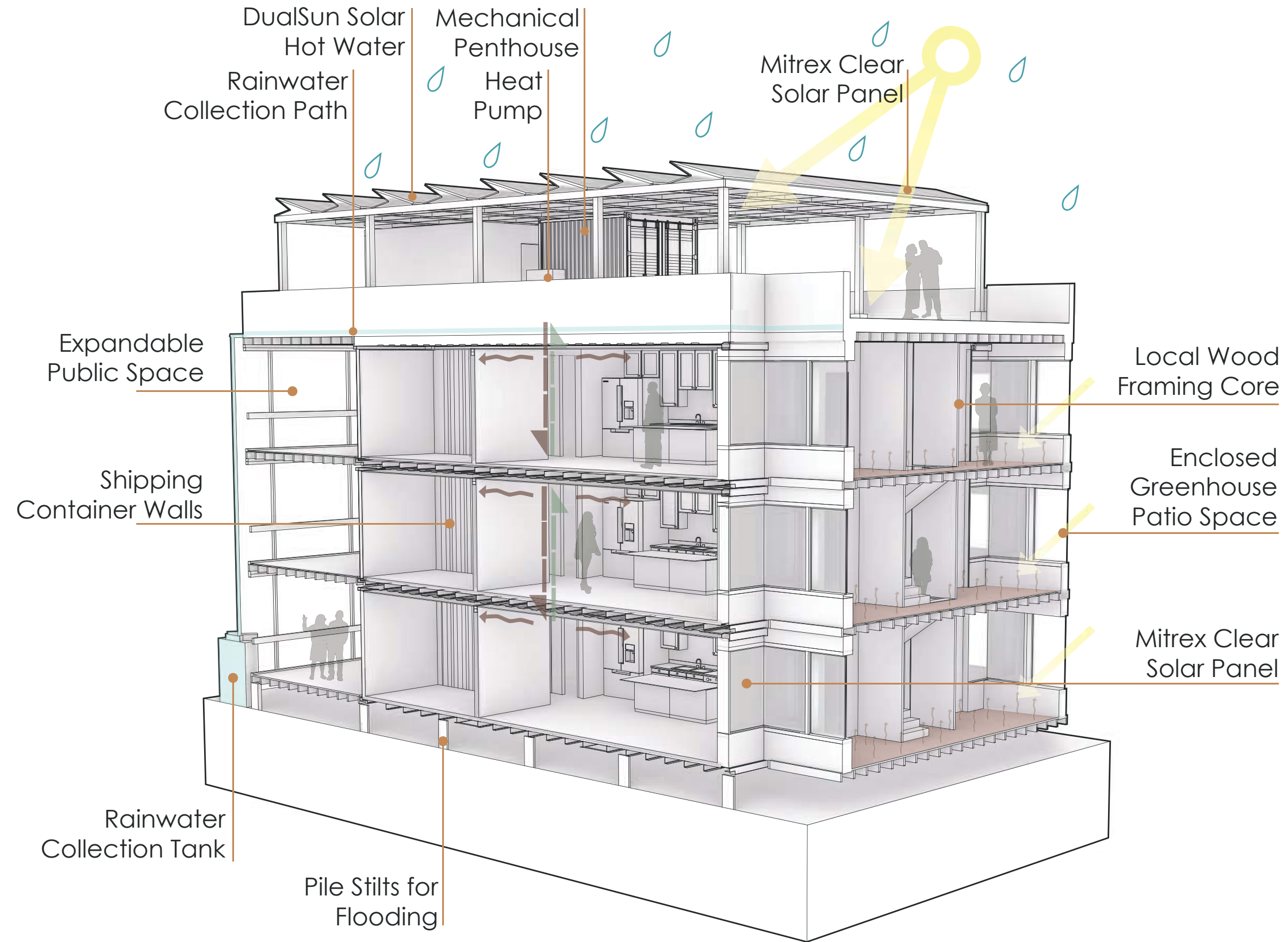
2023

The Solar Decathlon is a competition to design sustainable housing, and our assignment was New Attached Housing. We focused on the typology of a Boston row house, and used containers to bring costs down and use a local material from the port. We also used sustainable systems and a PV grid to make our building generate 2,835kWh/yr and use 56% less water than an average home built.

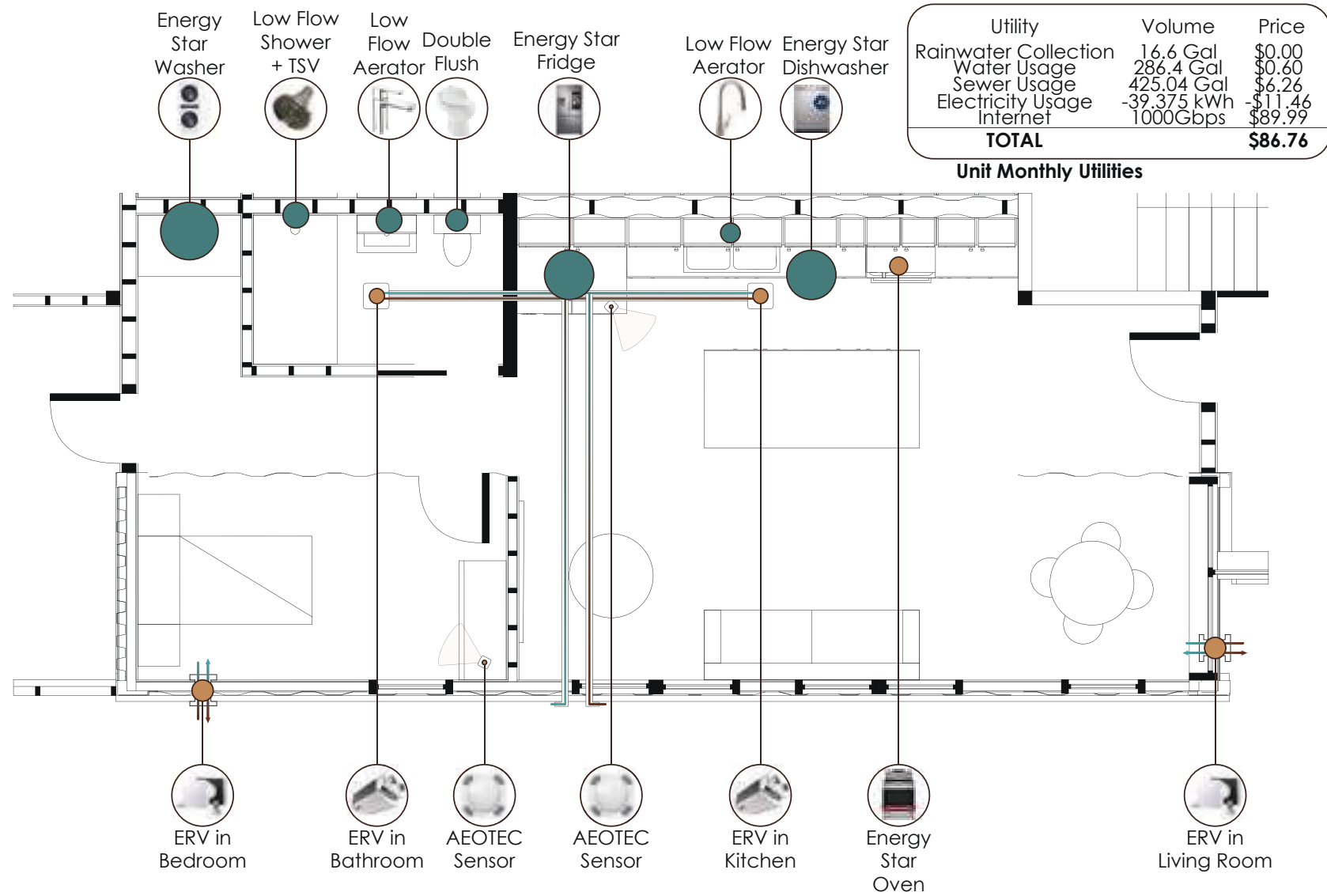
Rhino, Grasshopper, LadyBug, ClimateStudio, HEED, Butterfly + OpenFOAM



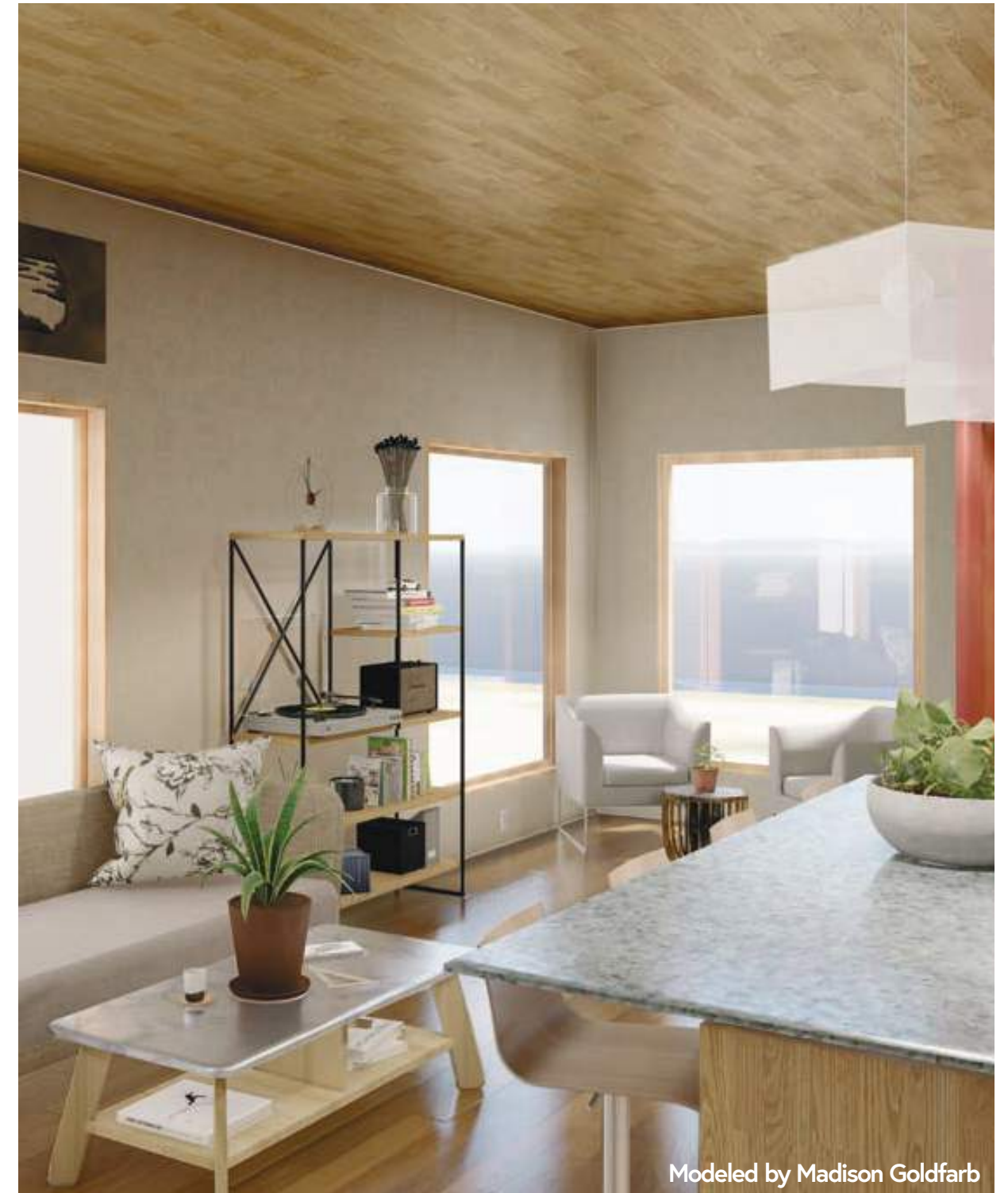
Initial Concept Models



Section Perspective



Unit Systems



Interior Perspective

MIT Innovation Hub

2022

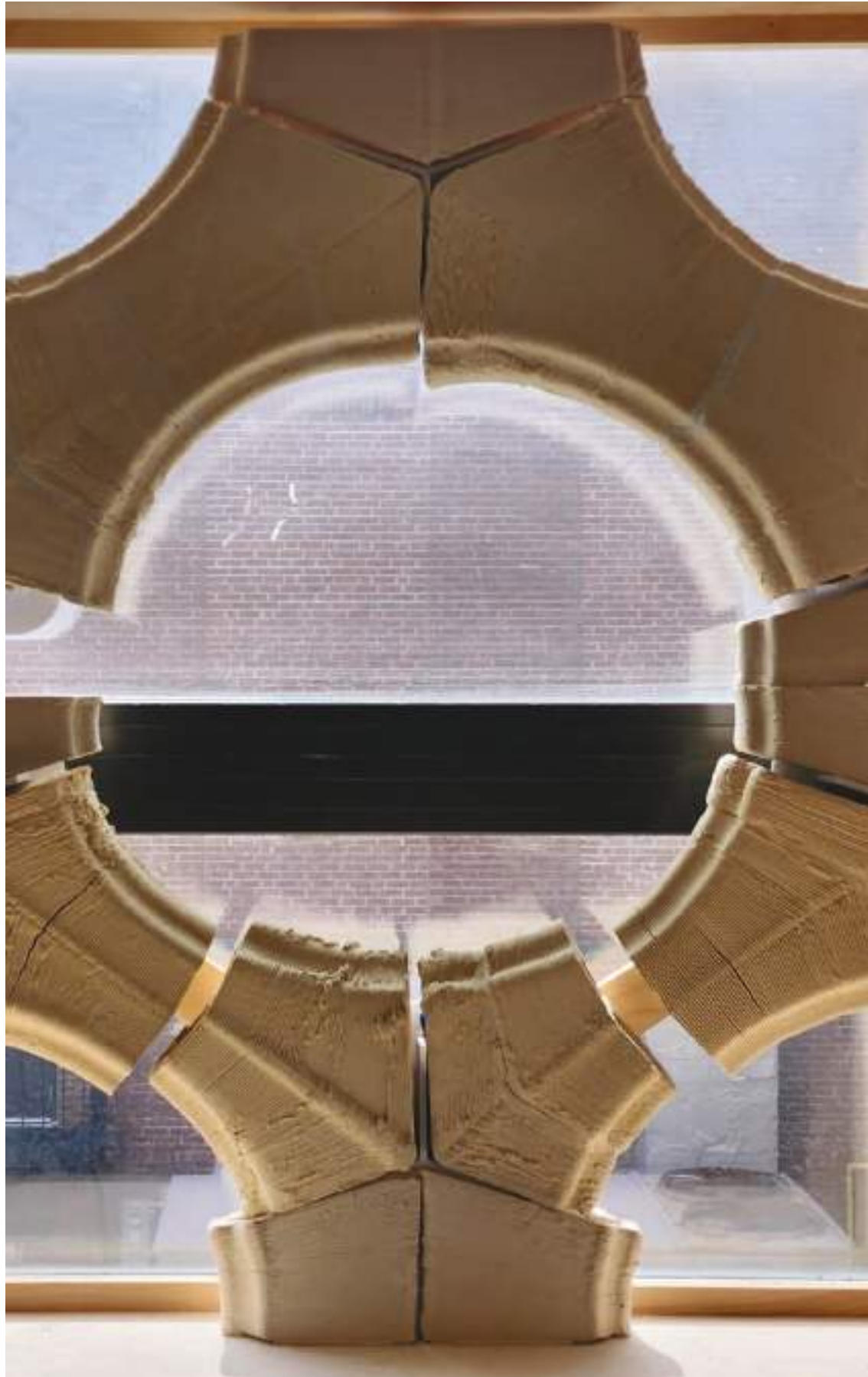
This studio focused on additive ceramics and Grasshopper to create a unique and responsive facade. As the designated computational designer, I designed a facade system that takes into account luminosity of the facade, the heat transfer between panels, programmatic complications and light spill requirements to vary porosity and density through the curved facade.

Rhino, Grasshopper, LadyBug, ClimateStudio, Kuka 3D, 6-axis Robot, Additive Manufacturing

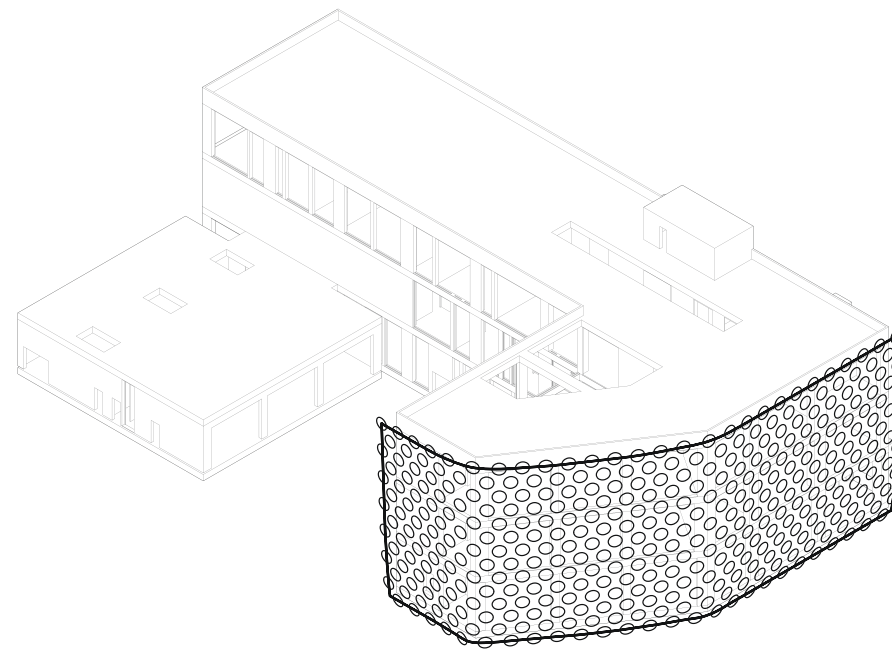


Facade Component Process

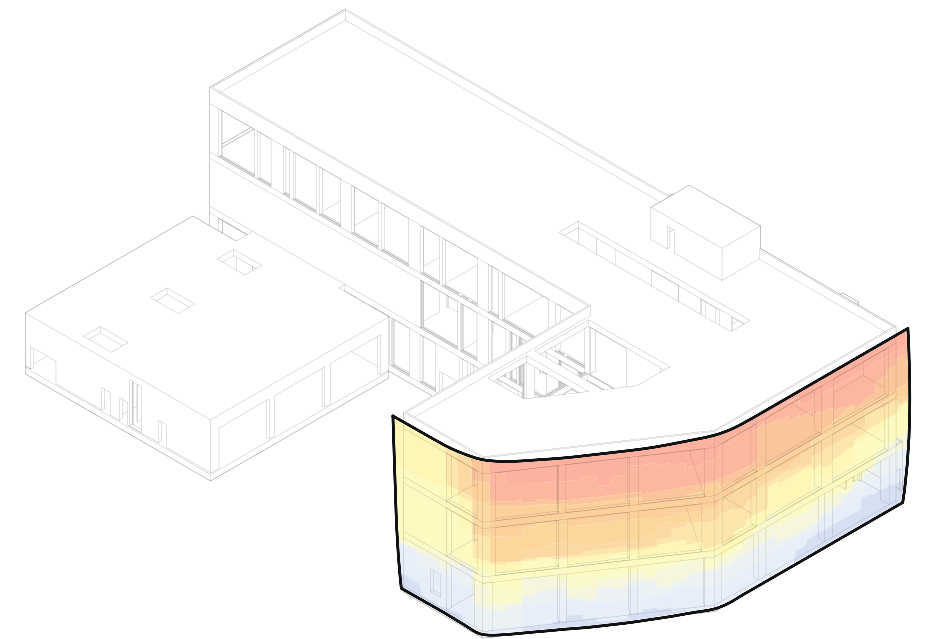




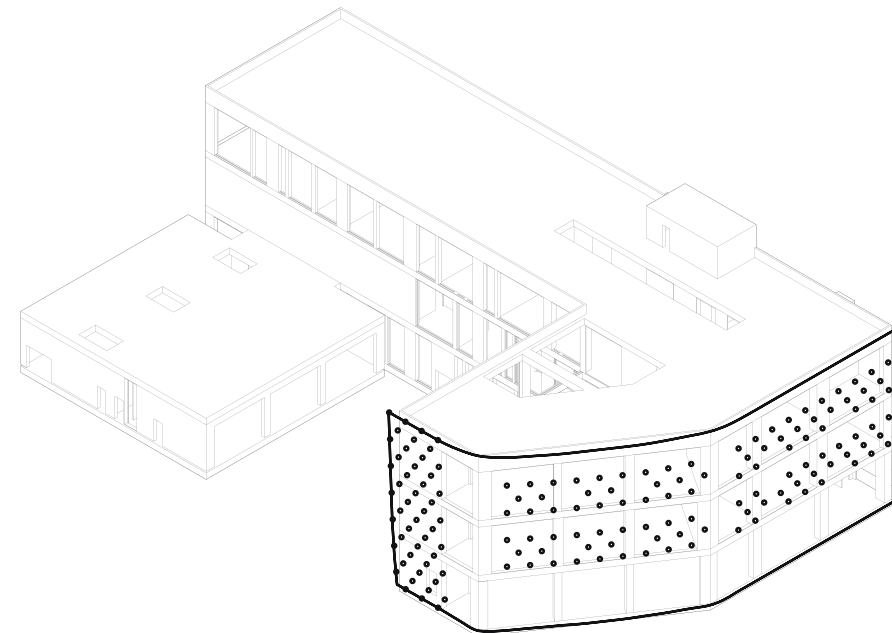
Facade Mockup



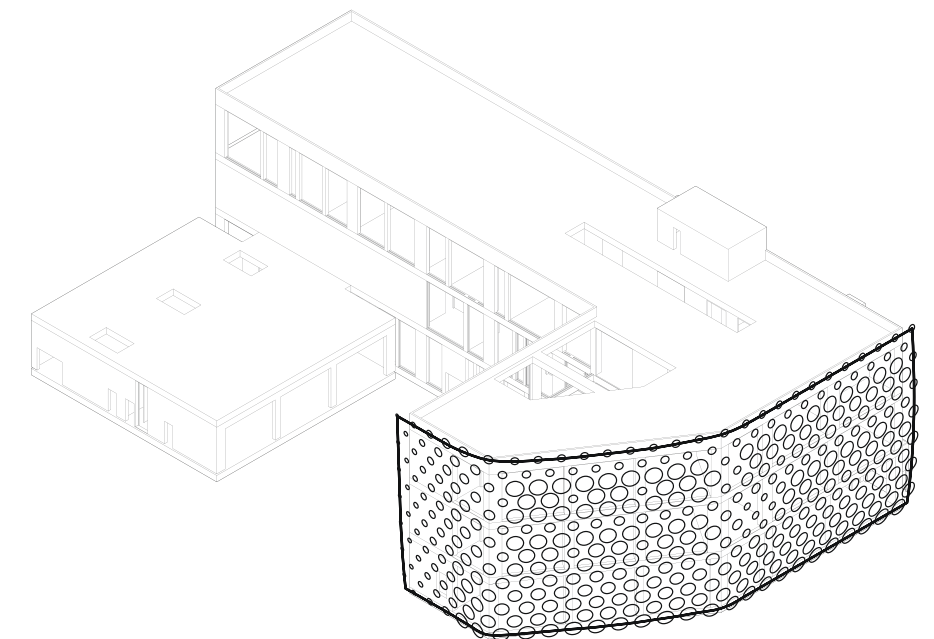
Create Surface and
Subdivide with Circles



Analyze Surface with
Ladybug for Context



Develop Programmatic
Relationships



Re-shape Openings with
Programmatic Responses

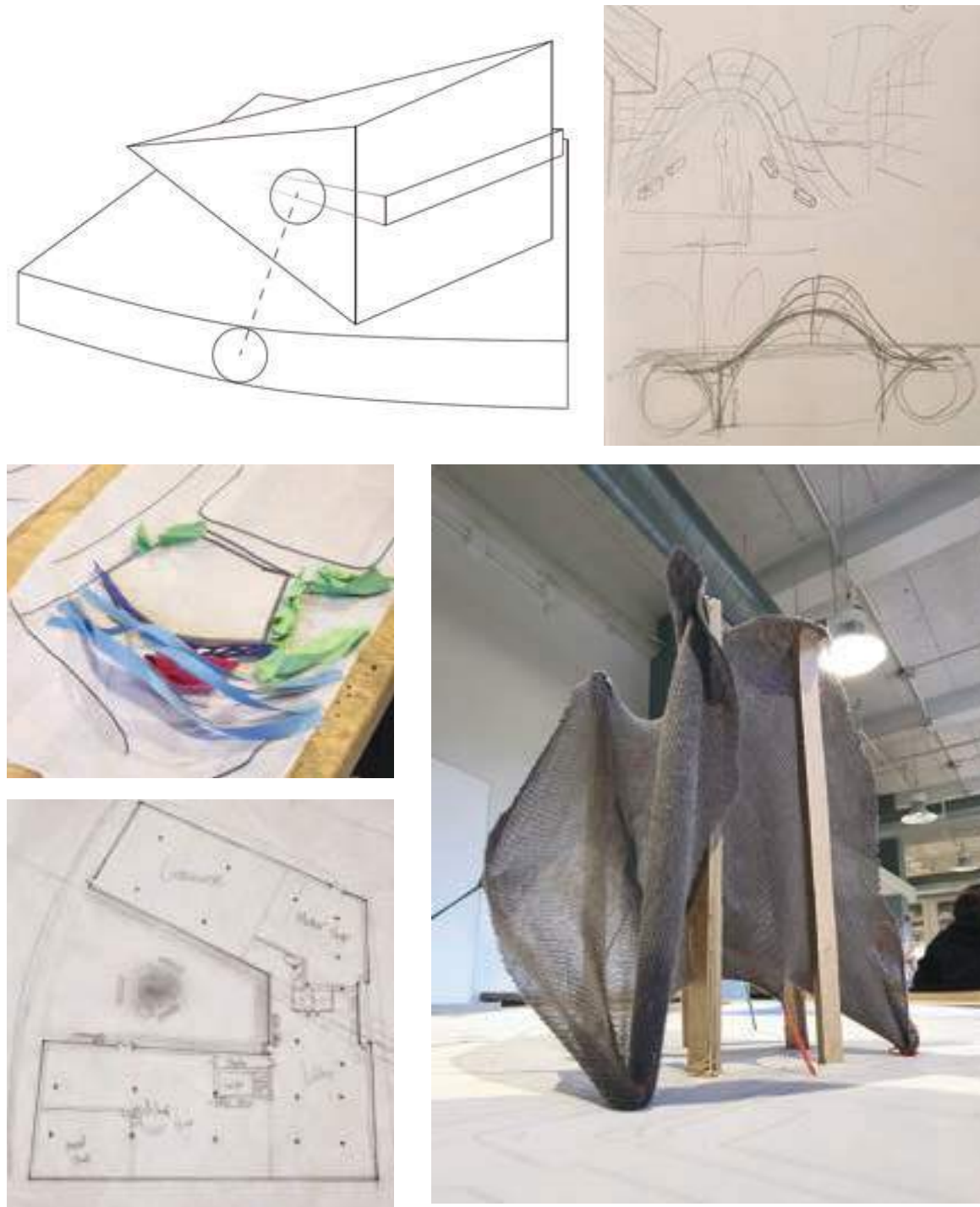
Facade Process

Net-Zero Makerspace

2022

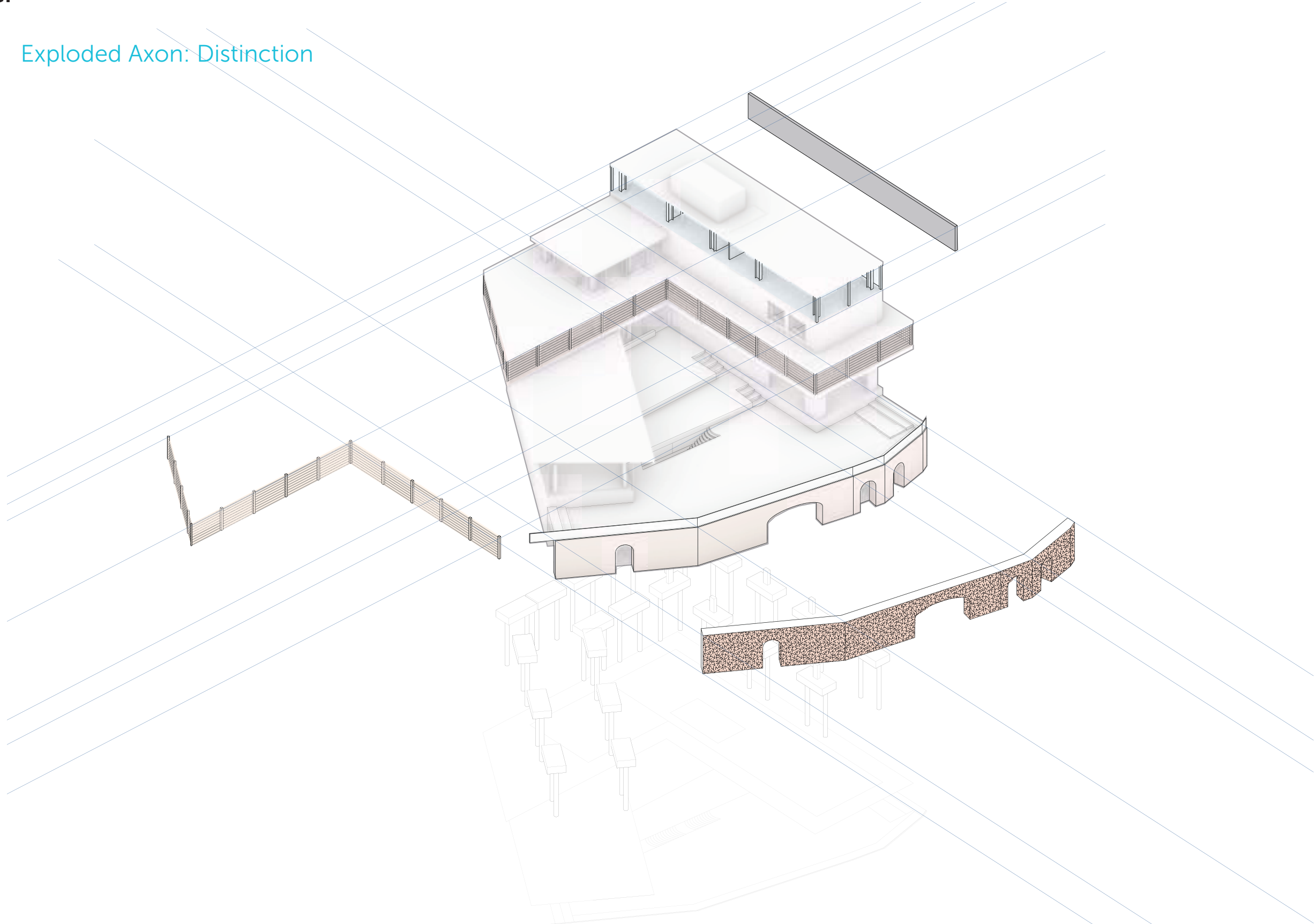
Comprehensive design studio is where we develop the building but also the systems, and the initial prompt we set out was a net-zero space. As our location is waterfront, we dug into the ground connecting the river into the space developing a circulation path directly from the water. We also used the water connection to filter the dirty river to improve the water quality.

Revit, Rhino, Grasshopper, ClimateStudio, Lasercutting, Hand Modeling, 3D Printing



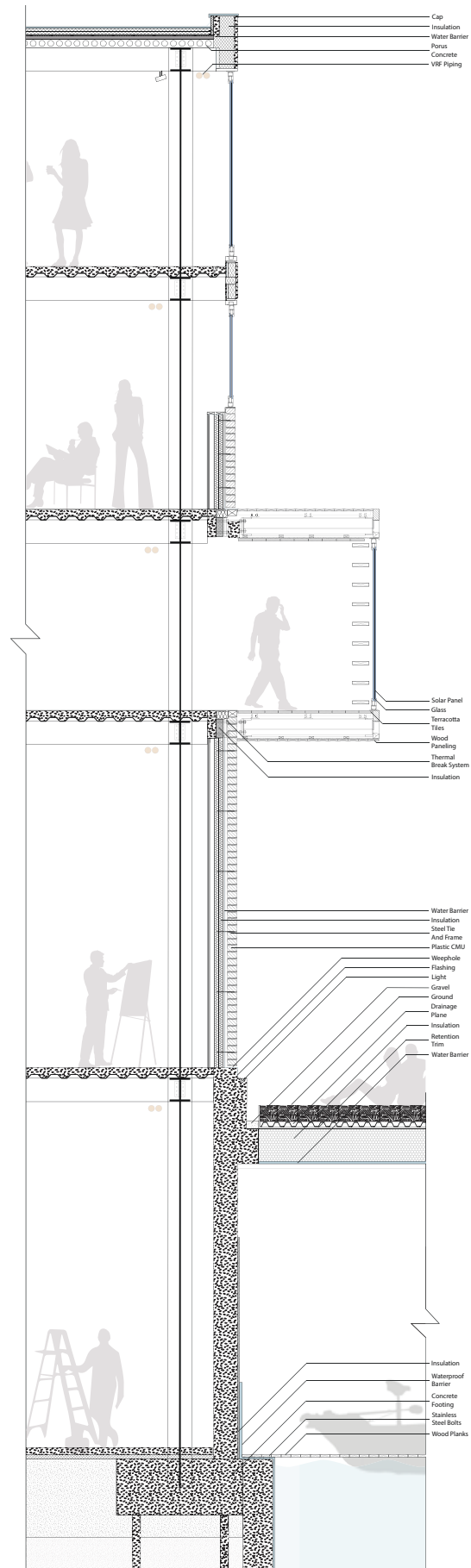
Initial Concept Models

Exploded Axon: Distinction



Exploded Axon

Striving Toward Motivation



Wall Section



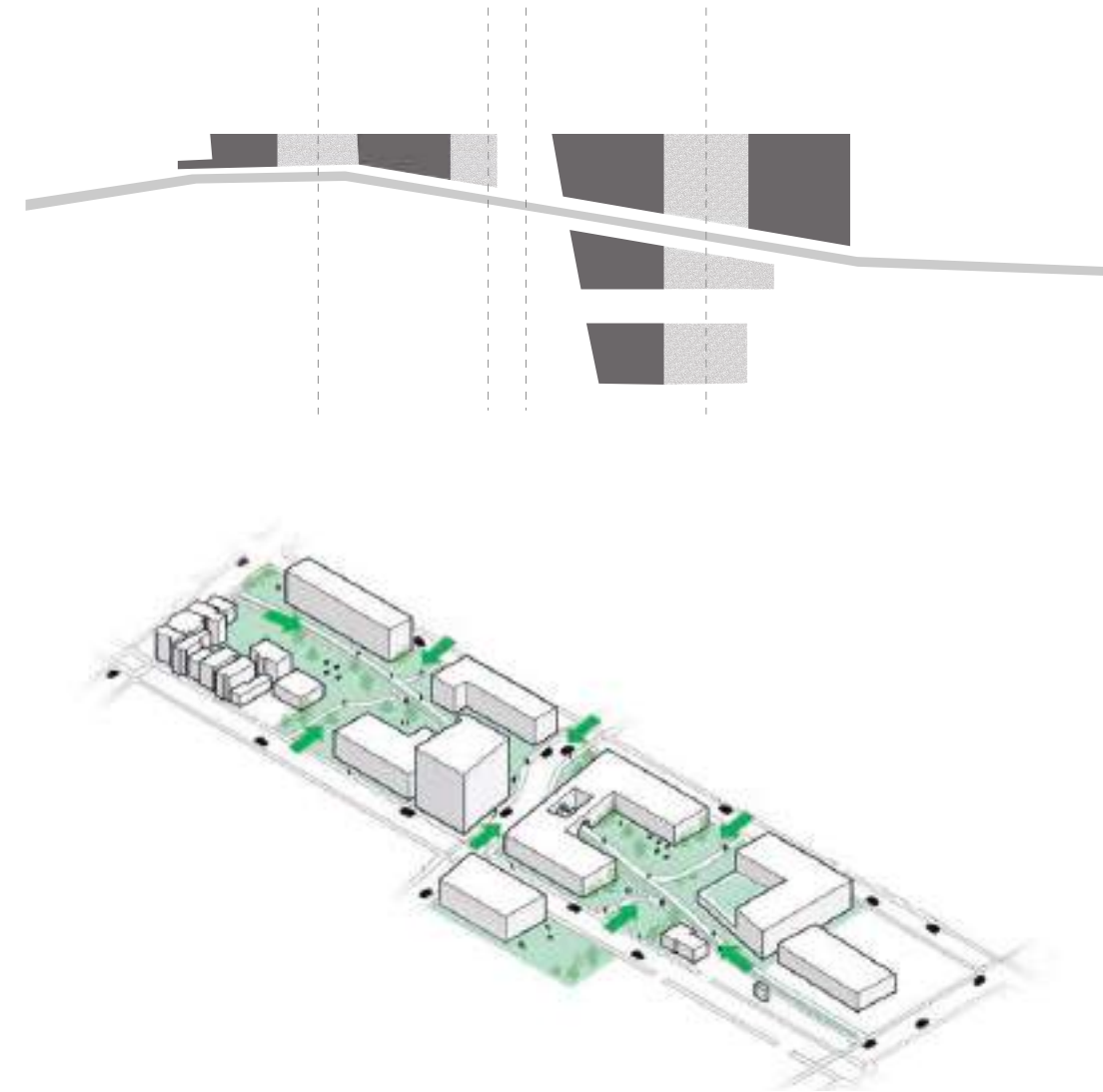
1/4" Section Model

Greenhouse Apartment Complex

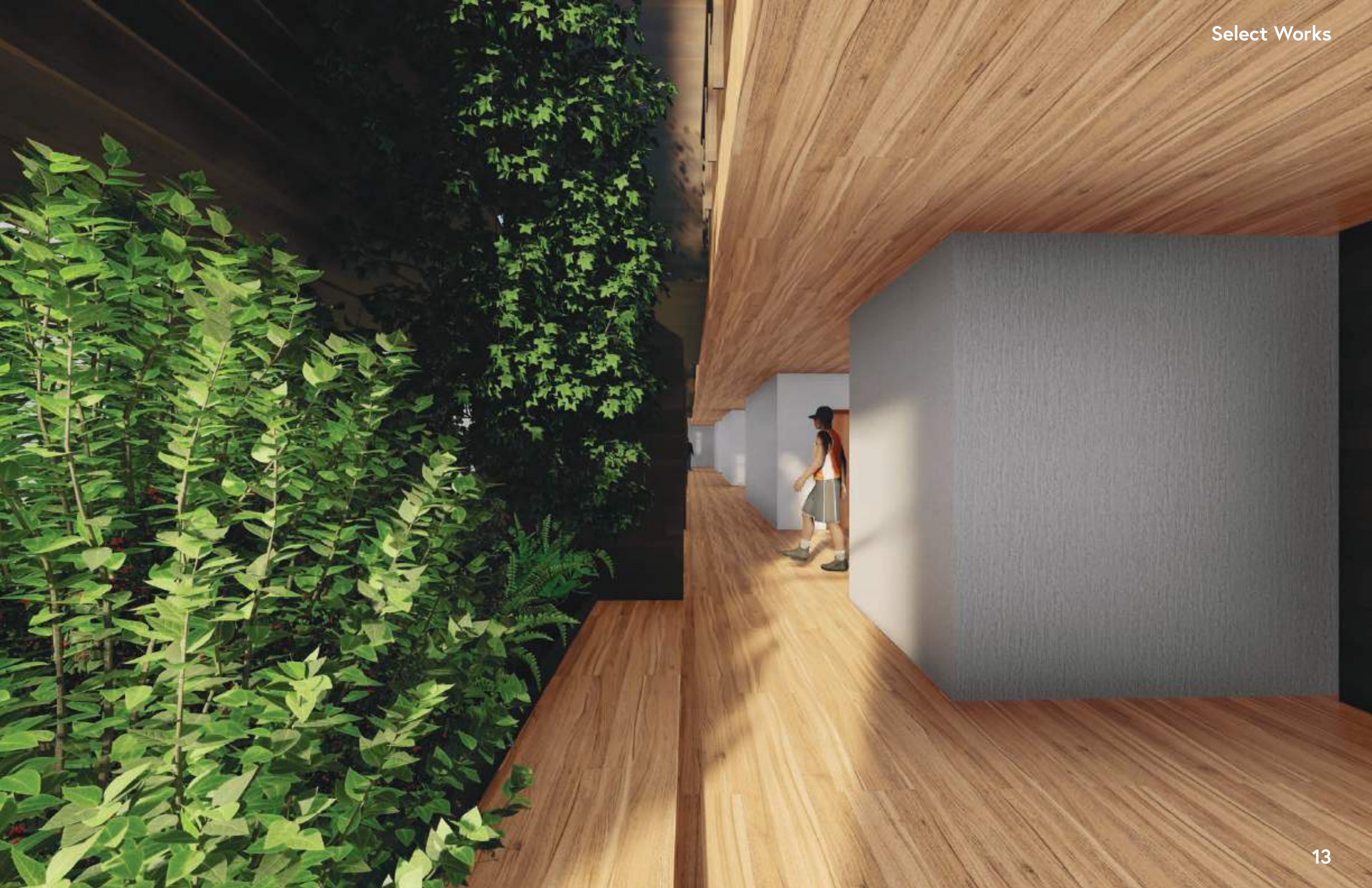
2021

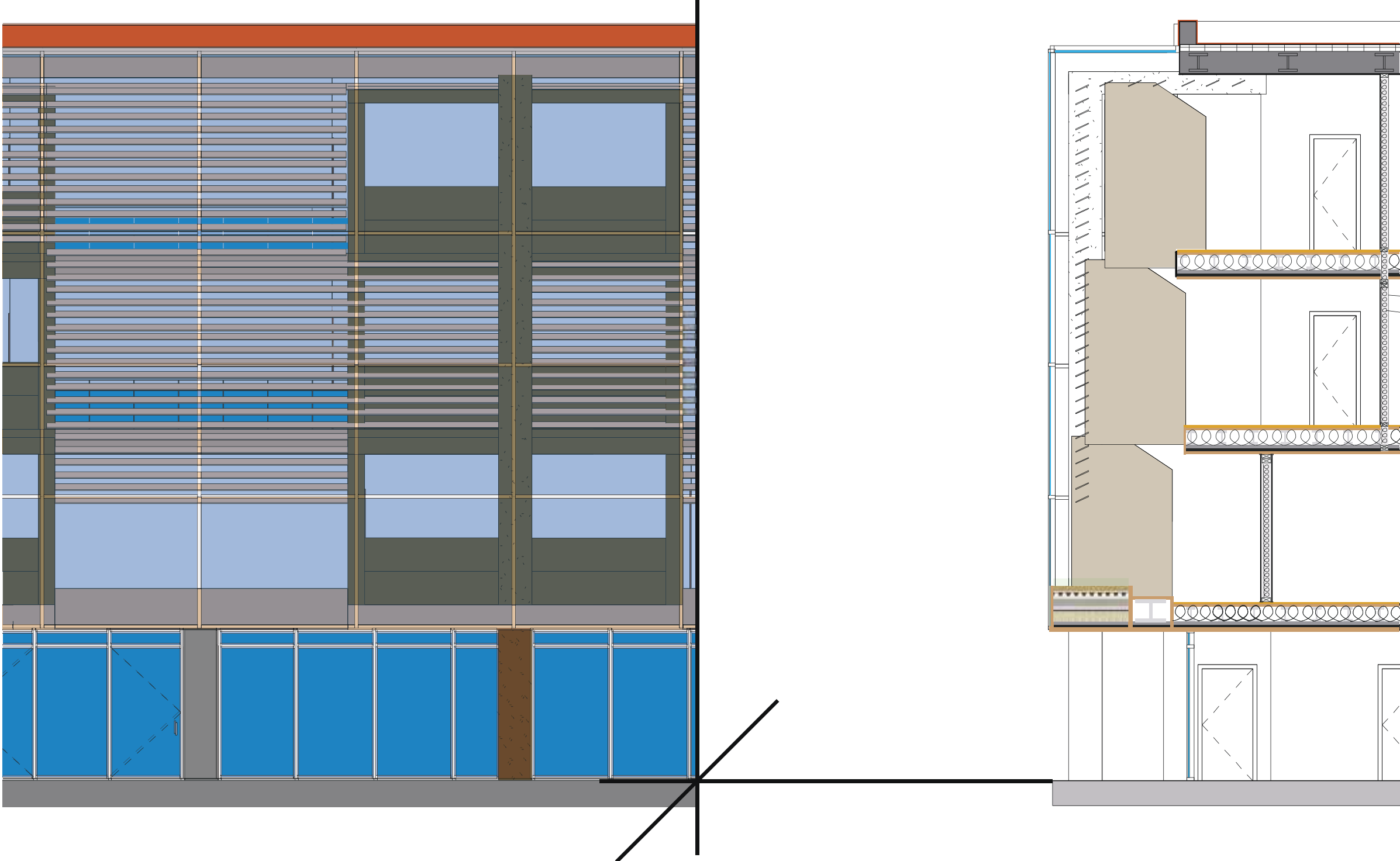
In this studio we focused on the issues facing housing in East Boston. This includes lack of affordability and the unsustainable nature of the buildings. My approach was to put a large scale greenhouse on the front of the building, creating an inner circulation path with nature throughout the year. I also used the first floor to add community resources that were lacking previously.

Revit, Lumion, Lasercutting, 3D Printing



Initial Concept Models





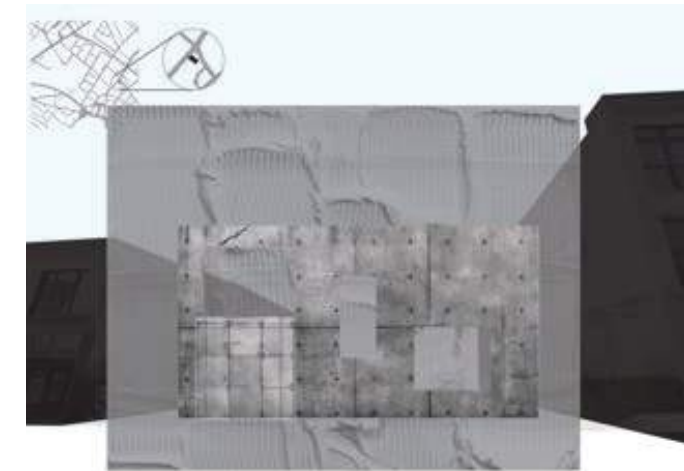
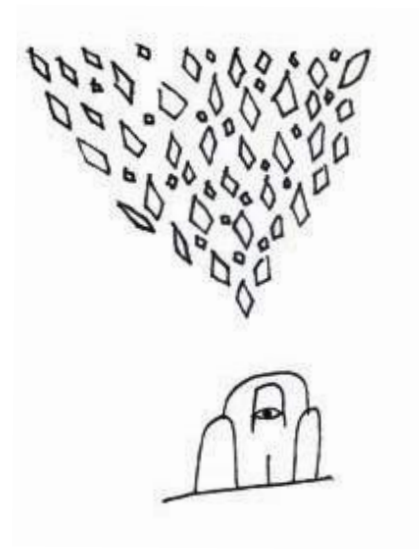
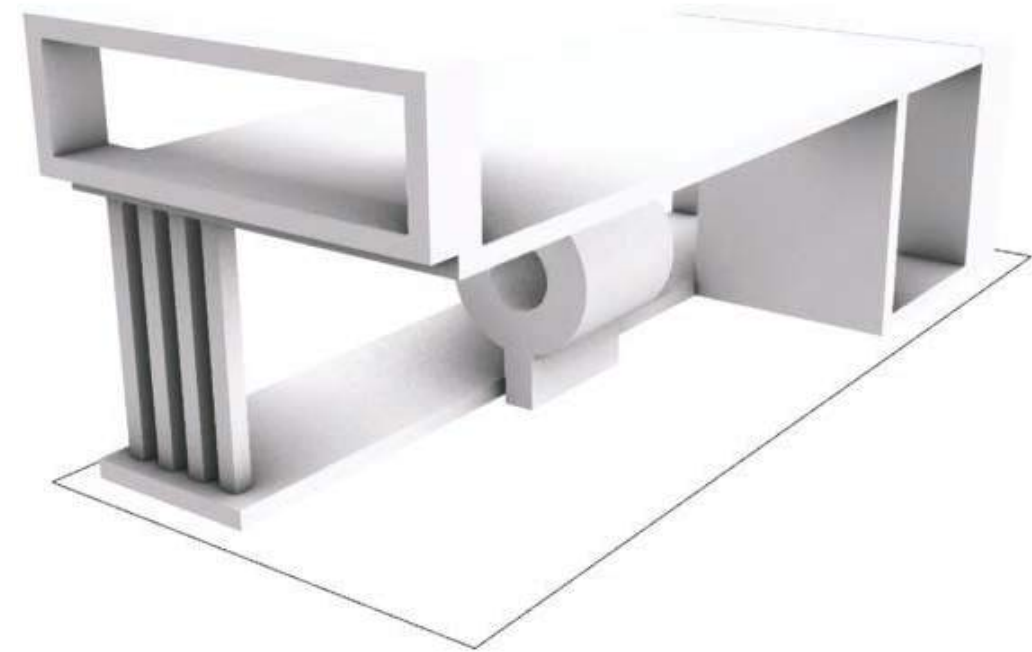
Section Elevation

Home For An Artist

2021

Our conceptual design phase started after listening to a sample of music. Our goal was to design a home for him and a poet, focusing on public performance. This space started to involve Brutalist design language as it matched the music, leading to a striking facade that allows the artist and poet to "Observe the world", which is how they gain inspiration for their work.

Revit, Rhino, Lumion, Illustrator



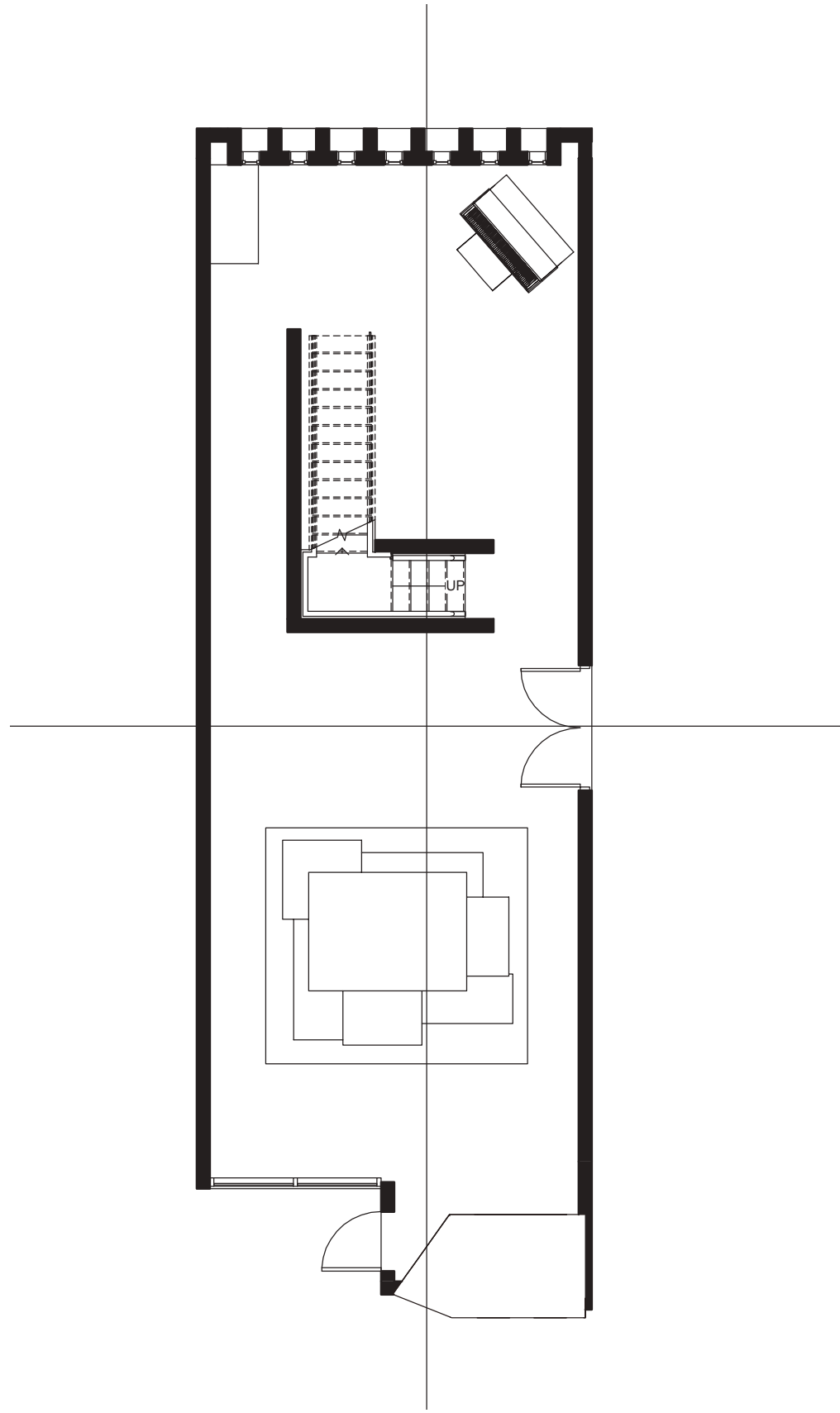
Initial Concepts



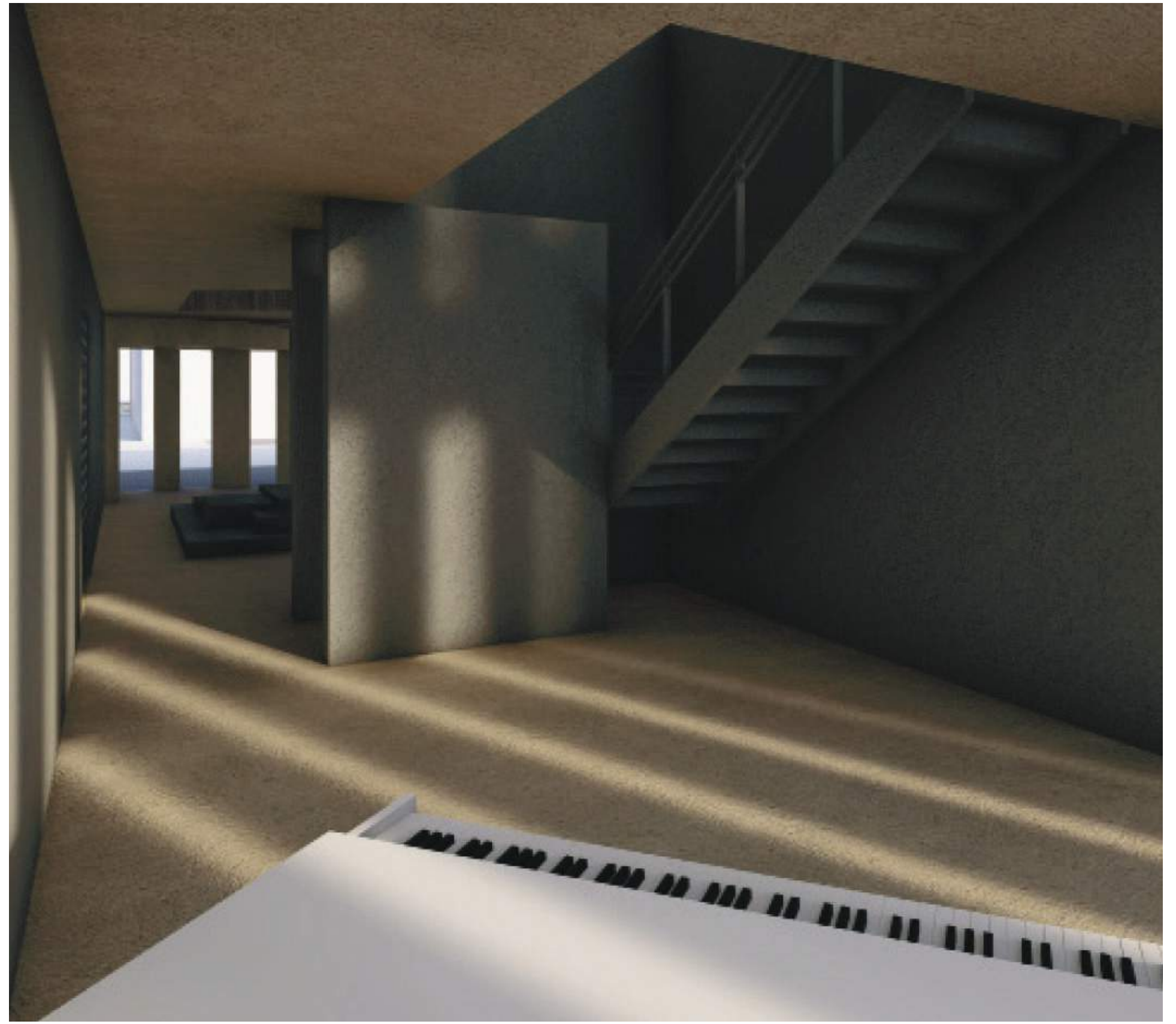
Front Axon



Interior Rendering



Floor Plan



Interior Rendering

Flow Pavillion

2019

For the first project at Wentworth, we designed a space that can act as a performance pavillion that incorporated structure, light and flight. The cube that I developed is a column supported structure on it's side, with a large glass cube full of flowing sand that reacts to the wind, with a light filter on the end to represent the river next to the site.

AutoCAD, Laser Cutting, Hand Drafting, Hand Model Making, Wood, Paper, Metal Mesh, Plaster, Acrylic, Sand



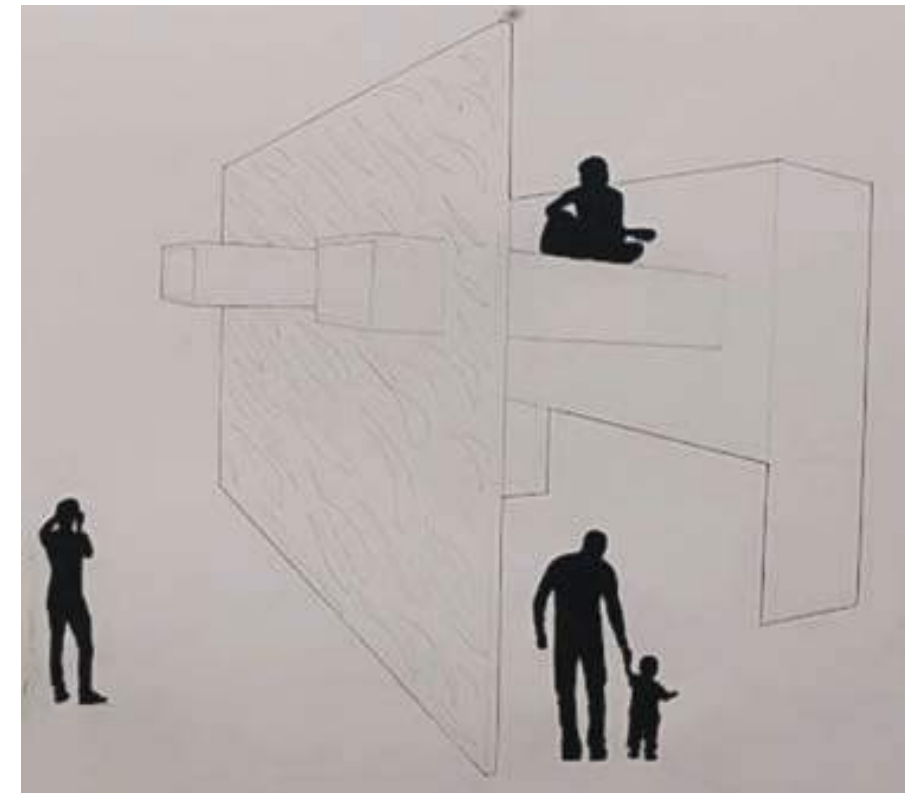
Initial Concept Models



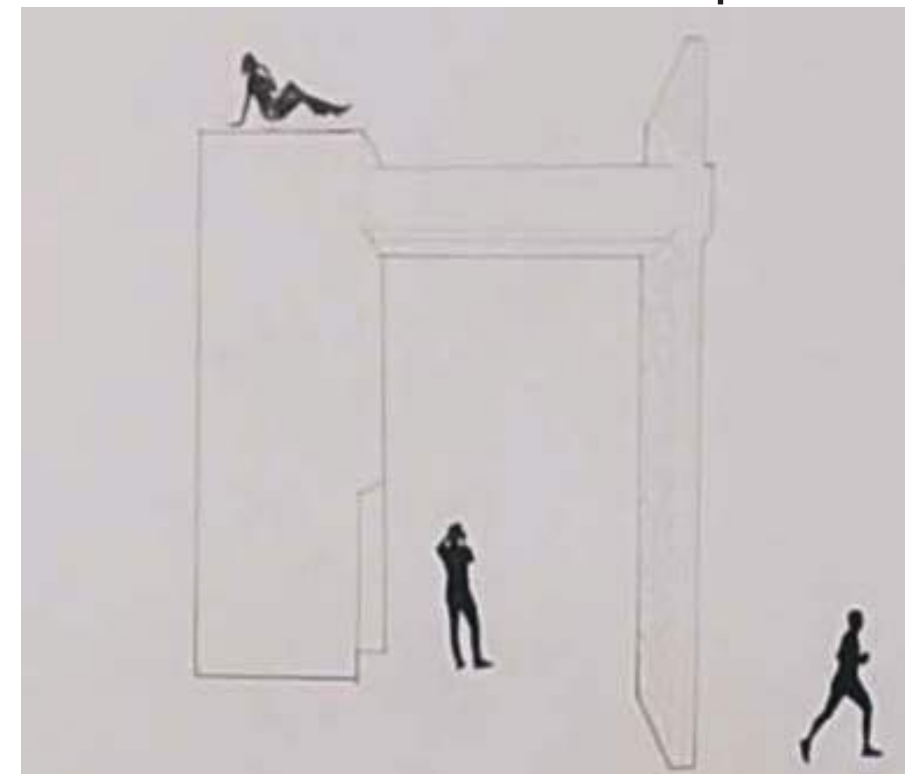
Final Model



Final Model



Hand-Drawn Perspective



Hand-Drawn Perspective

Personal Projects

PAINTING



CRASH
2021



Bleeding Earth
2022

FASHION



Deconstructed Men's Dior Suit



Parametric Rings

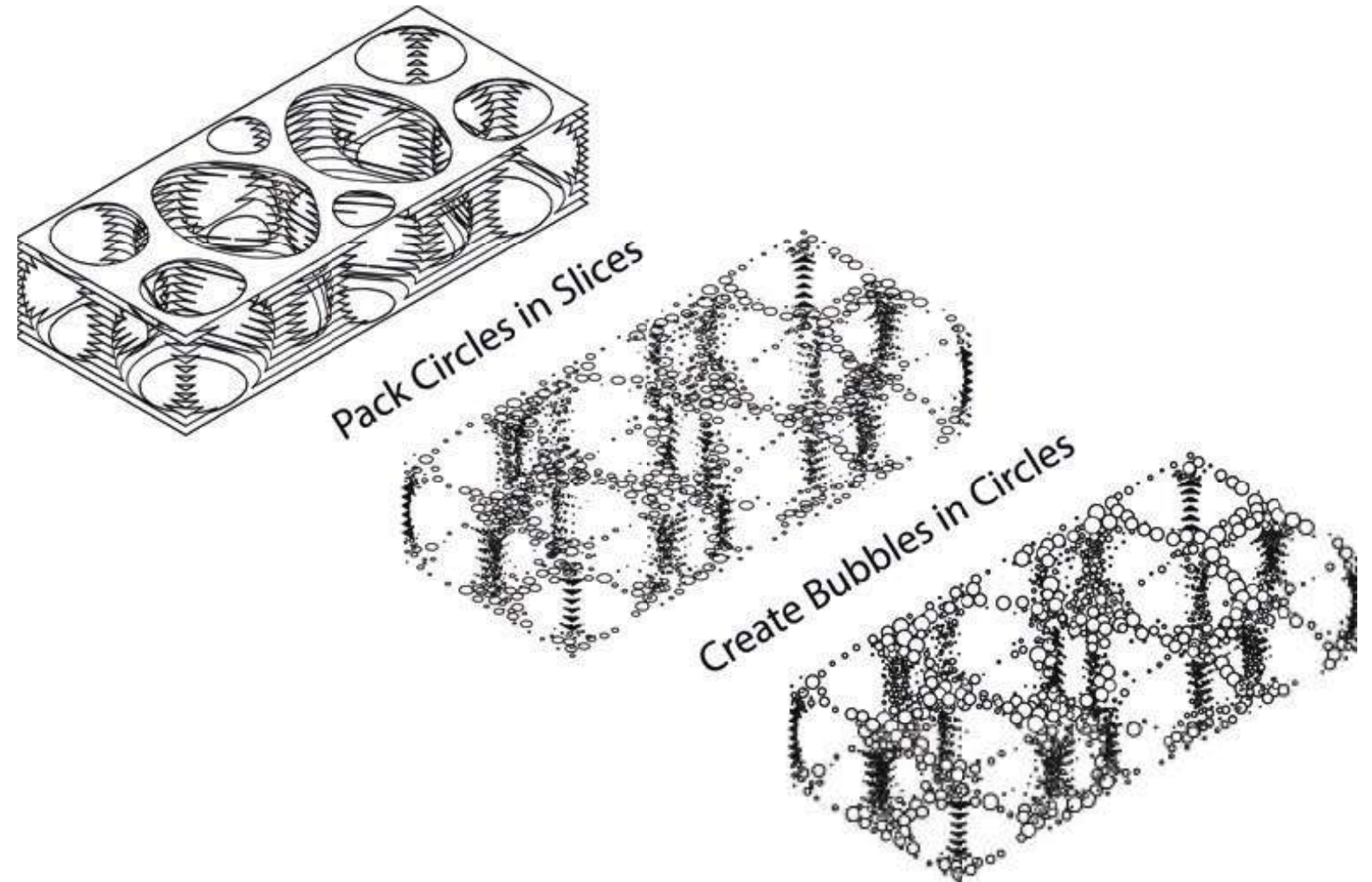


Hand Embroidered Paintbrush Suit

GRASSHOPPER



Spiral Vase



Exploration in Density - Kangaroo



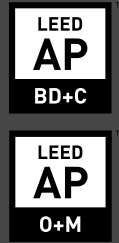
Airflow Simulation - Butterfly



Thallus Clay Print - Kuka PRC, Kangaroo

CV

Phone: +1 (339) 203 1677
Email: Jacobylehrer@gmail.com
Website: Jacoblehrer.com



EDUCATION

Wentworth Institute of Technology
B.Sci. - Architecture - Emerging Technology
2019-2023

Activites:

- Founder + President: Wentworth Sustainability Society
- Patterncutter: IIDA NE Fashion Show Club
- Radio Presenter: WIRE Wentworth Radio

Recognition:

- Dean's List
- "Student Among Youngest to be LEED Certified" - Article
- "Unique Library Design Incorporates Eco-Friendly Elements" - Article

WORK

DBI Projects
Project Coordinator

- May 2021 - February 2023
- Run and prepare for client meetings with concrete agendas
- Create and manage project budgets worth over \$14,000,000
- Develop and custom code new project schedule system

Riverstone Sustainability
Sustainability Consultant

- October 2019 - December 2021
- Track LEED project requirements for LEED Scorecard
- Report and analyze utility usage for Wentworth campus
- Run @sustainablewit Instagram and Twitter

Renewal by Andersen
Salesperson

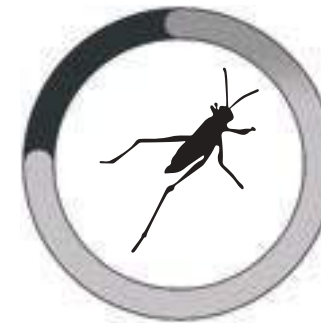
- April 2021 - December 2021
- Introduce product in fast-paced environment
- Rapidly understand client needs and suggest proper solutions
- Develop extensive knowledge about window installation

Preservation Worcester
Historic Preservation Intern

- July 2019 - August 2019
- Develop systems to track and organize historic buildings in Worcester
- Create proposal for Main Street Historic District (Listed in NHR 2022)
- Research and find furniture for period-accurate historic restoration



Rhino 7



Grasshopper



Lumion



Revit 2023



Illustrator



InDesign



Bluebeam



Excel