

KATHRYN
LARSEN

Portfolio 2019



KATHRYN LARSEN

ARCHITECTURAL TECHNOLOGIST



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Denmark



SKILLS

Autodesk Revit	● ● ● ●
Autodesk AutoCAD	● ● ● ●
Adobe Photoshop	● ● ● ●
Adobe InDesign	● ● ● ●
Adobe Illustrator	● ● ● ●
Rhinoceros	● ● ● ●
Enscape	● ● ● ●



LANGUAGE

English	● ● ● ●
Danish	● ● ● ●
Japanese	● ● ● ●
Spanish	● ● ● ●



AWARDS

Jun 2016 - "Healthy Housing Award" Finalist
 Nov 2016 - "KEA WORKS Vinge" Finalist
 Jan 2019 - "Bursary Pris" from KEA
 Mar 2019 - Boligfonden Spirekasse
 Scholarship

WORK EXPERIENCE

Feb 2019 - PRESENT

Architectural Technologist / EBK Huse A/S

Jun 2018- Jan 2019

Architectural Technologist Student / EBK Huse A/S

As both a student and a graduated architectural technologist, I have worked in A-Tegnestue with developed design drawings for prefabricated Danish summer houses, including electrical and kitchen drawings. My responsibilities include securing building permits, drainage permits for rainwater and sewage, and demolition permits. Since June 2018, I have procured over thirty building permits and had eight houses built.

Feb 2018-Jun 2018

Architectural Technologist Intern / Vilhelm Lauritzen Arkitekter

For my sixth semester internship, I worked on the New North Zealand Hospital. I worked primarily in Danish. I worked for the furnishings and fit-out team, modeling relevant families in 3D in Revit.

Jan 2017- Feb 2018

Teaching Assistant / Københavns Erhvervsakademi

Because of my background in architecture school, I was asked to teach fourth semester design elective students how to use laser cutters, 3D printers, CNC machines, and shop tools to create physical models of their projects at KEA MakerLab.

Dec 2016- Feb 2018

Architectural Technologist Student / Københavns Erhvervsakademi

I worked under architect Astrid Asmussen MAK to design pictograms and wayfinding around KEA's different campuses. I created and put up over 500 signs in different campuses. I also made technical diagrams of the boiler rooms and heating plans for Lygten 16 and Prinsesse Charlottesgade campuses. I was given the responsibility to render and plan interior design tasks, and designed the new facade for the student bar Moon Bar.

Jul 2016- Oct 2016

Architectural Technologist Intern / Seguro Aps

I drew renovation and demolition plans for renovated apartments in Copenhagen in both Revit and AutoCAD.

EDUCATION

Aug 2015 - Jan 2019

Architectural Technology and Construction Management / Københavns Erhvervsakademi (KEA)

Aug 2015-May 2017

Danish Language / Københavns Sprogcenter

Aug 2014 - May 2015

Architecture / Cornell University

Sep 2013-Jul 2014

Japanese Language / Intercultural Institute of Japan

Sep 2009 - Jun 2013

High School / Haddonfield Memorial High School

STATEMENT OF PURPOSE

I began my studies in architecture at Cornell University, and currently am an architectural technologist in Denmark with an interest in sustainability and unusual building material applications. I focused my dissertation on how eelgrass can be used in construction, inspired by the seaweed houses of Læsø.

While living in Japan, I explored Japanese wood joinery and became interested in vernacular architecture and construction methods. This interest in the connection between culture and construction has continued across my studies, and into my research.



Observational Sketch, Copenhagen, 2014

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Observational Sketch, Reichstag, 2014

Photo credit: Anders Lorentzen, KEA Communications



01. SEAWEED THATCH REIMAGINED

May 2018-Present
Københavns Erhvervsakademi (KEA)
7th Semester Thesis Research, Individual Project

Advisors: Anke Pasold and Mette Marko Hansen, KEA Material Design Lab

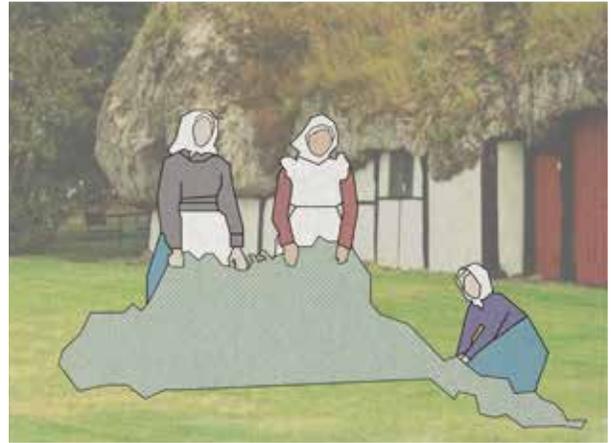
The Bachelor's Project at Københavns Erhvervsakademi consists of two parts: an individual building project based on an existing concept design, and a thirty page thesis on a subject of choice relating to the building industry.

I chose to focus my thesis on the seaweed houses of Læsø, as it is a subject without many resources in English, and has huge potential for the global building industry. Eelgrass is carbon neutral, rot and fire resistant and as insulative as rockwool. I researched the original method of seaweed thatching, and developed prefabricated thatch panels. To study the affects of weathering on the panels, I created an installation on the roof of the school, which will last into Autumn 2019. I received a scholarship of 25,000DKK from Boligfonden Spirekasse in March 2019 to continue researching after my studies.

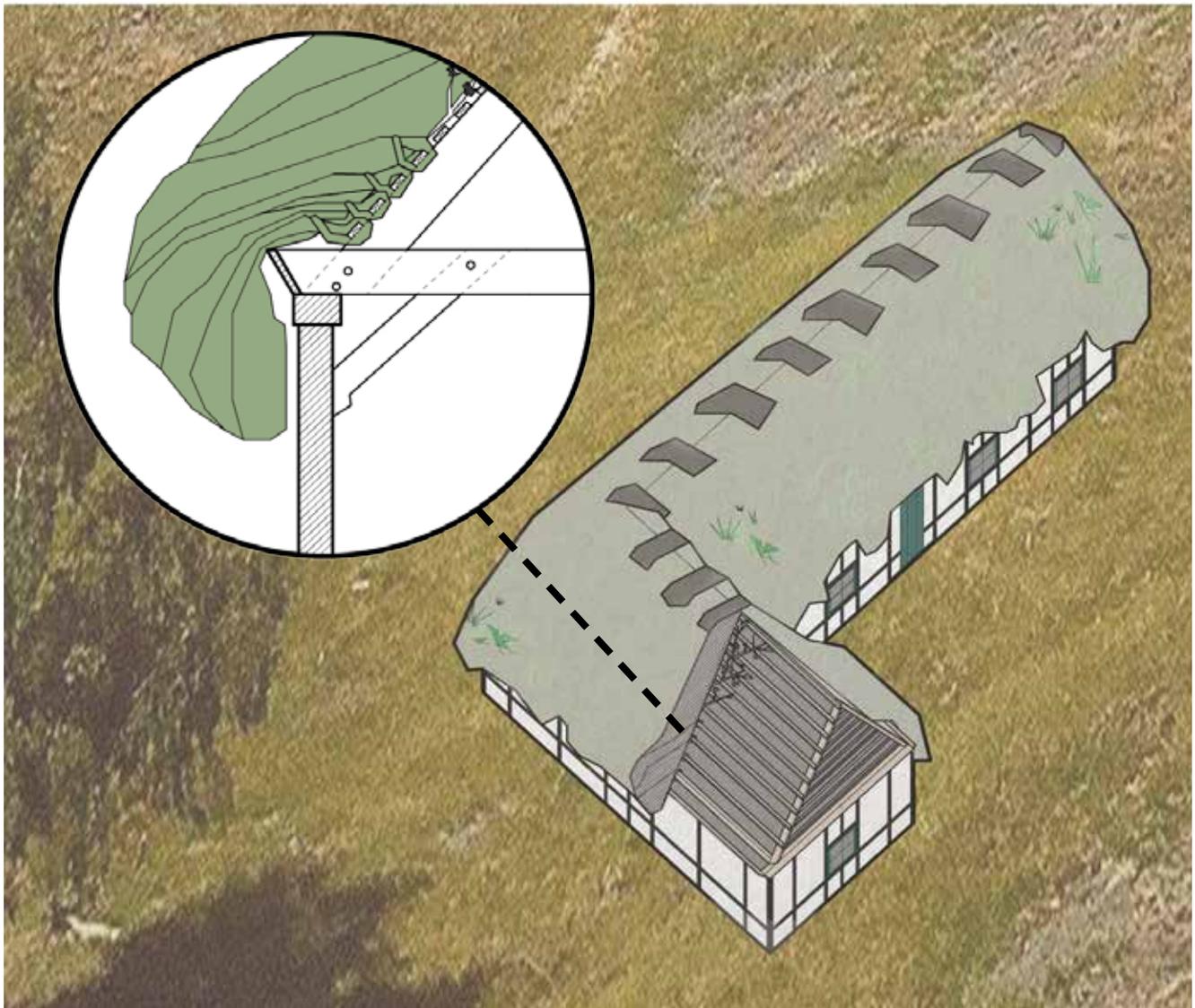
RESEARCH



1. The women harvested the seaweed in the fall, and let it rest in a field until spring.

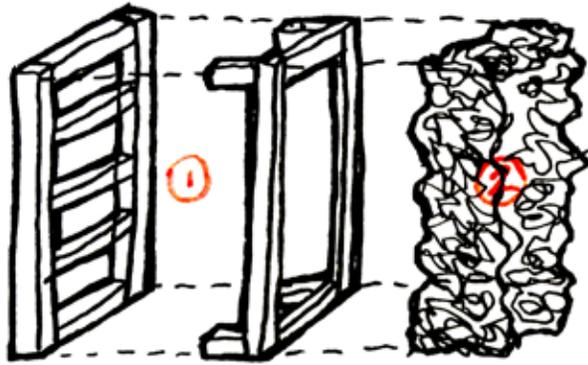


2. The cleaned and dried seaweed was twisted into large rope-like 'vasks', and looped around rafters in the first three layers.

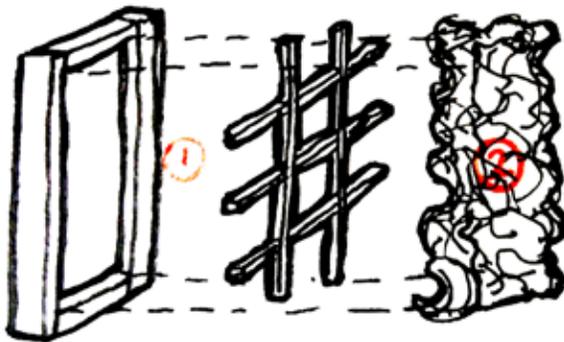


3. Pine branches were placed on the remaining rafters and seaweed was piled on top. A girl would dance on top of the roof to help the natural binders begin to seal the roof. The final construction would be a meter thick, and completely solidify after a year.

SKETCH MODELS



- "LOOSE" PANEL
① WOOD SUBSTRUCTURE
② EELGRASS



- WOVEN PANEL
① WOOD SUBSTRUCTURE
② EELGRASS

WATER

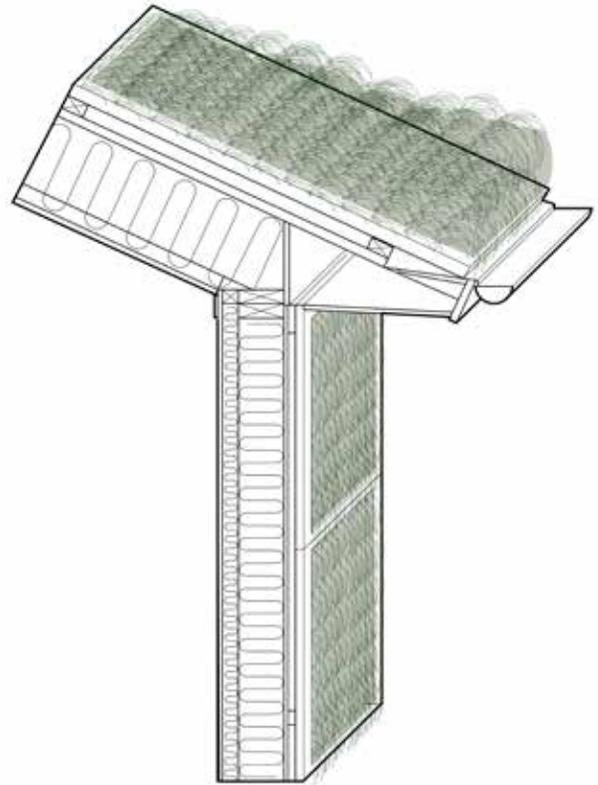
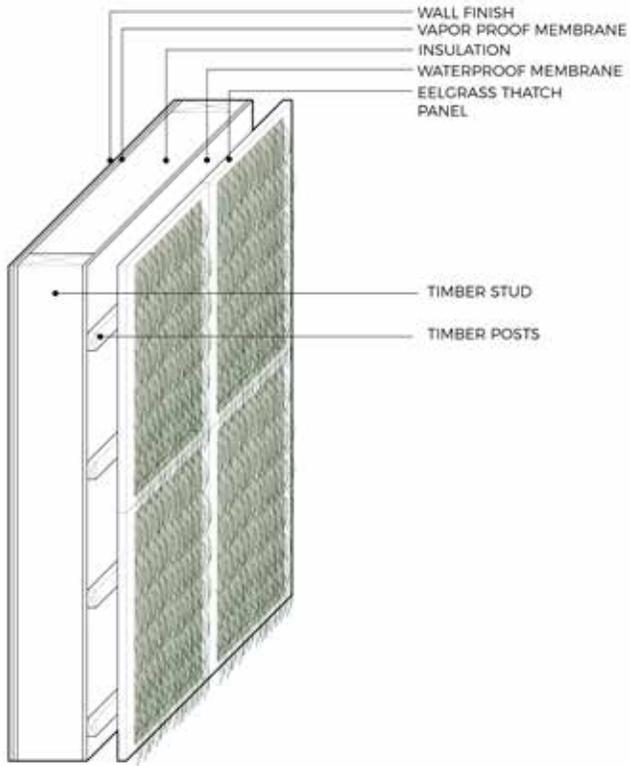
CASEIN GLUE

BONE GLUE



FULL SCALE

ISOMETRIC WALL SECTION THEORETICAL CONSTRUCTION



01. SEAWEED THATCH REIMAGINED

INSTALLATION DAY





02. KLOSTERVEJ I RY

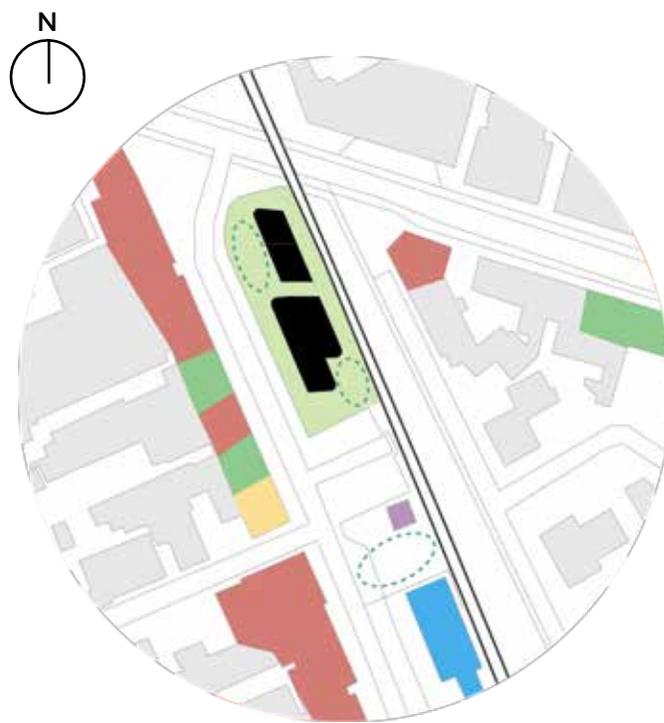
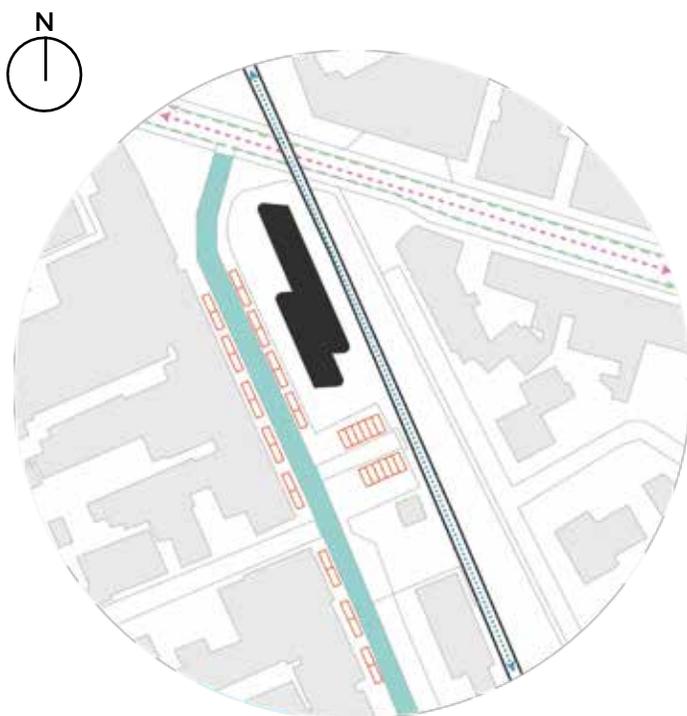
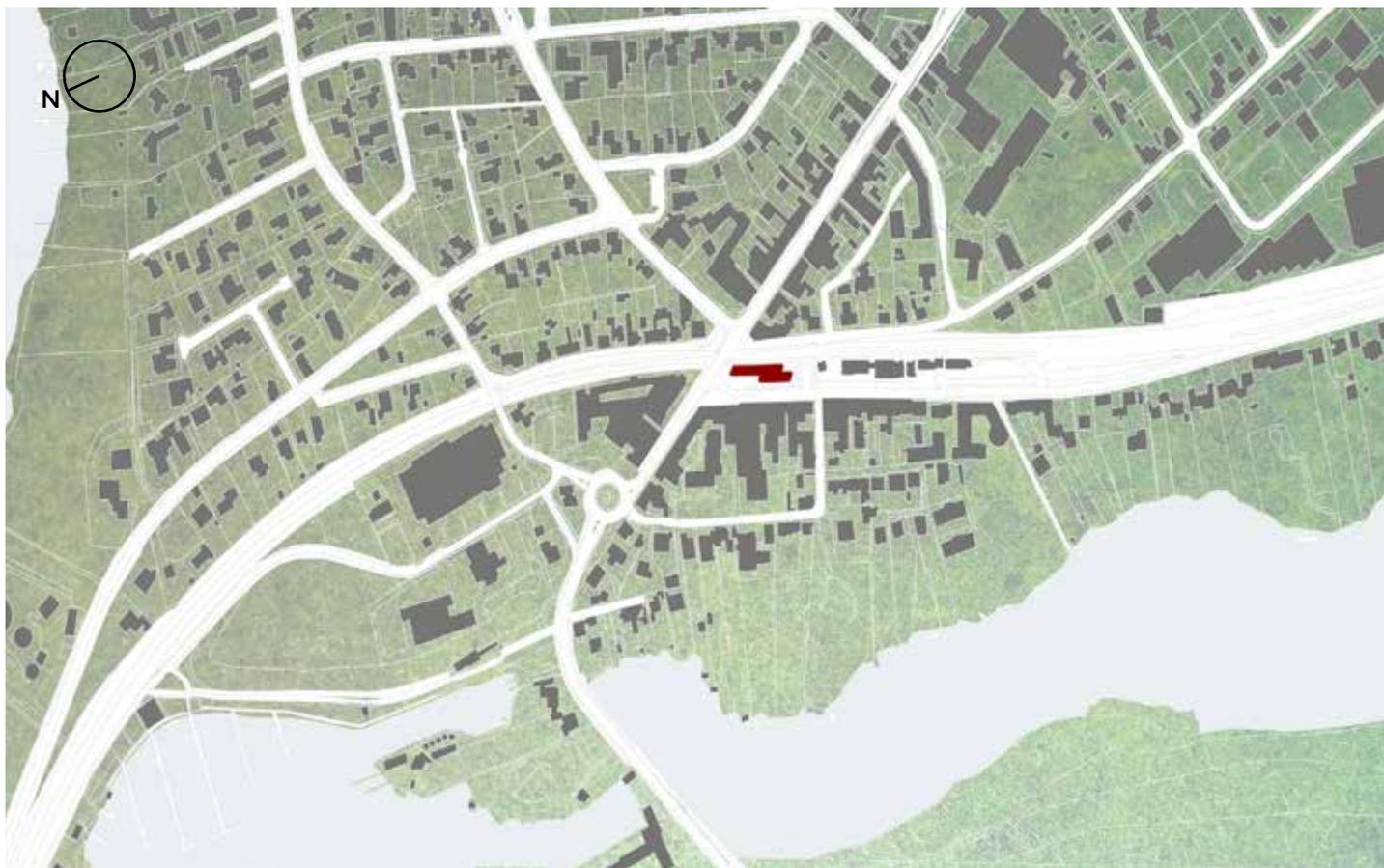
Sept 2018-Jan 2019
Københavns Erhvervsakademi (KEA)
7th Semester Individual Bachelor Project

Semester Supervisor: Robert C. Miller

Klostervej i Ry is a multipurpose building that is half public, half private in function. The original concept was designed by Årstiderne Arkitekter for a competition project. Using the 11-page brief, I created an updated concept, a developed design stage, technical design, and production information for the building for my thesis as an Architectural Technologist.

Due to the fact that my degree focused on technical and construction skills, I was not given credit for creating an updated concept, however I found it necessary to analyze my project's functionality and, its relation to the urban environment through drawing. The focus and basis of my exam grades were my detail and construction drawings. I tied my bachelor project to my thesis by integrating sustainable solutions into the building design.

SITE



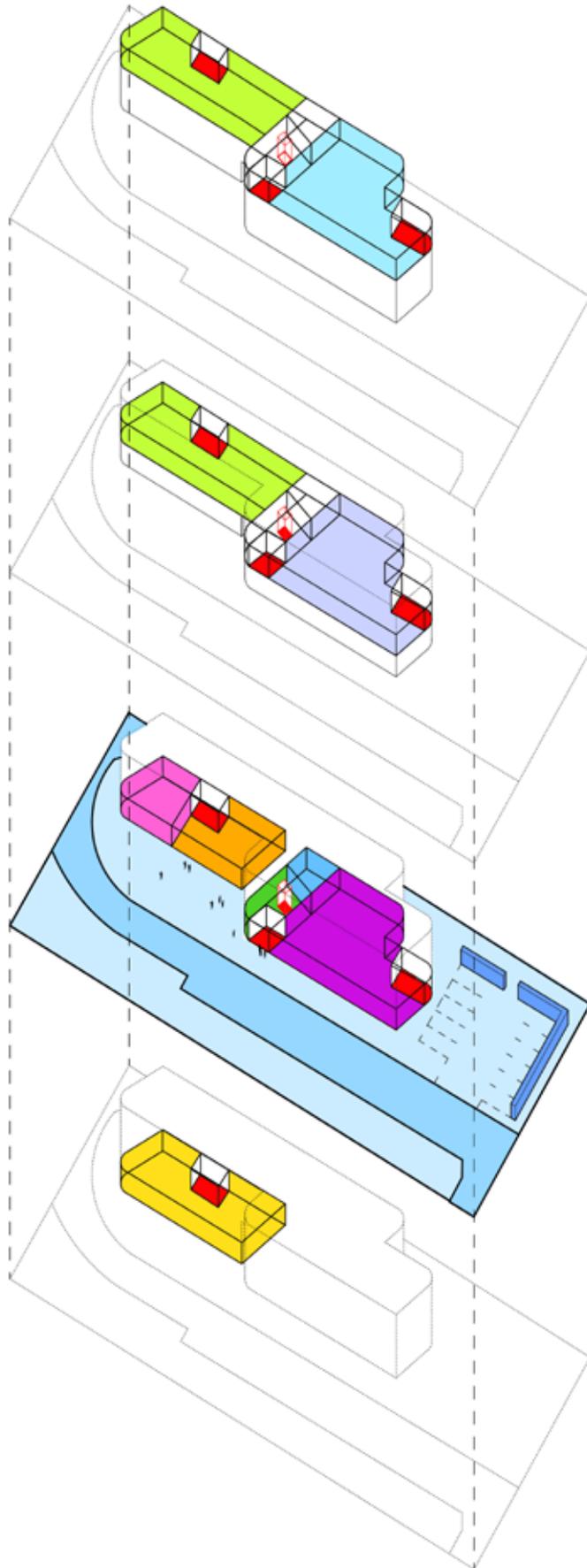
TRANSPORTATION

- TRAIN
- BIKE PATH
- PARKING
- BUS PATH
- WALKING STREET

GROUND FLOOR FUNCTION

- PUBLIC AREA
- SHOP
- STATION
- RESIDENTIAL
- FOOD
- BUSINESS
- OTHER

FUNCTIONAL DIAGRAM



PUBLIC

- Citizen Service
- Public Restroom
- Citizen House
- Library

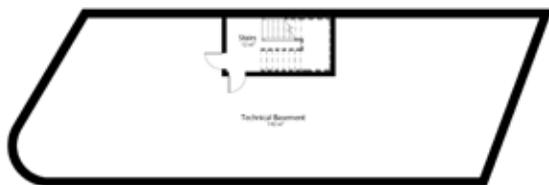
PRIVATE

- Technical Room
- Shop
- Cafe
- Office Space

ACCESS

- Sidewalk
- Road
- Staircase
- Elevator

PLANS



BASEMENT

FLOORING	
	Polished Concrete
	Junkers Hardwood Flooring
	XL-BYG Bruxelles Graphite Tiles



GROUND FLOOR



FIRST FLOOR



SECOND FLOOR

ELEVATIONS



NORTH



WEST

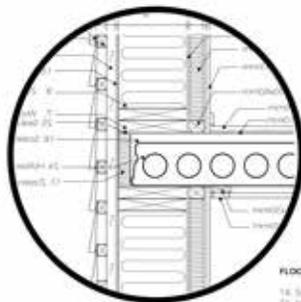
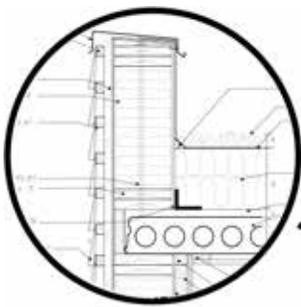
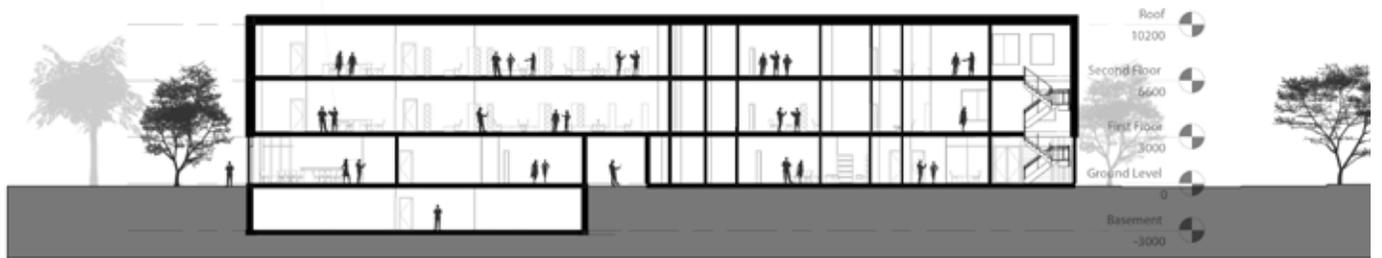


SOUTH



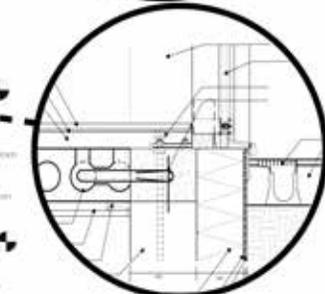
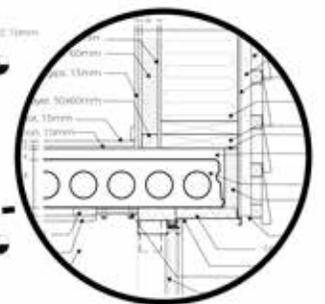
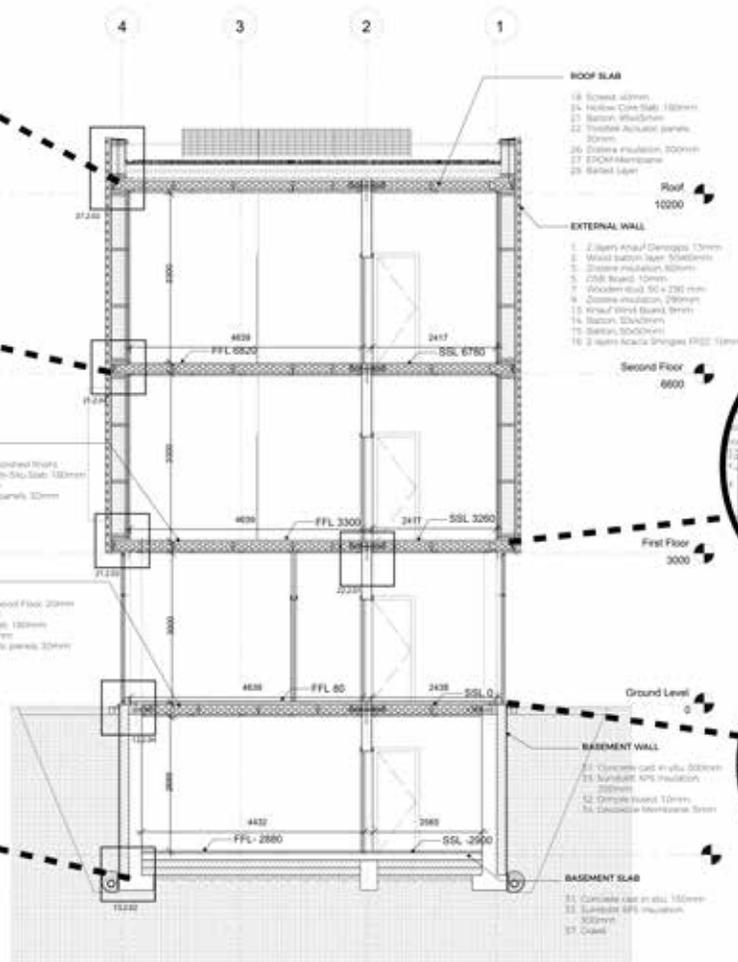
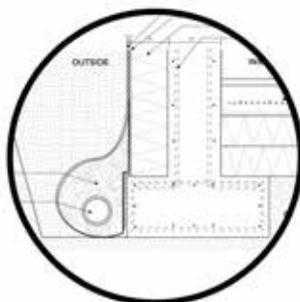
EAST

SECTIONS

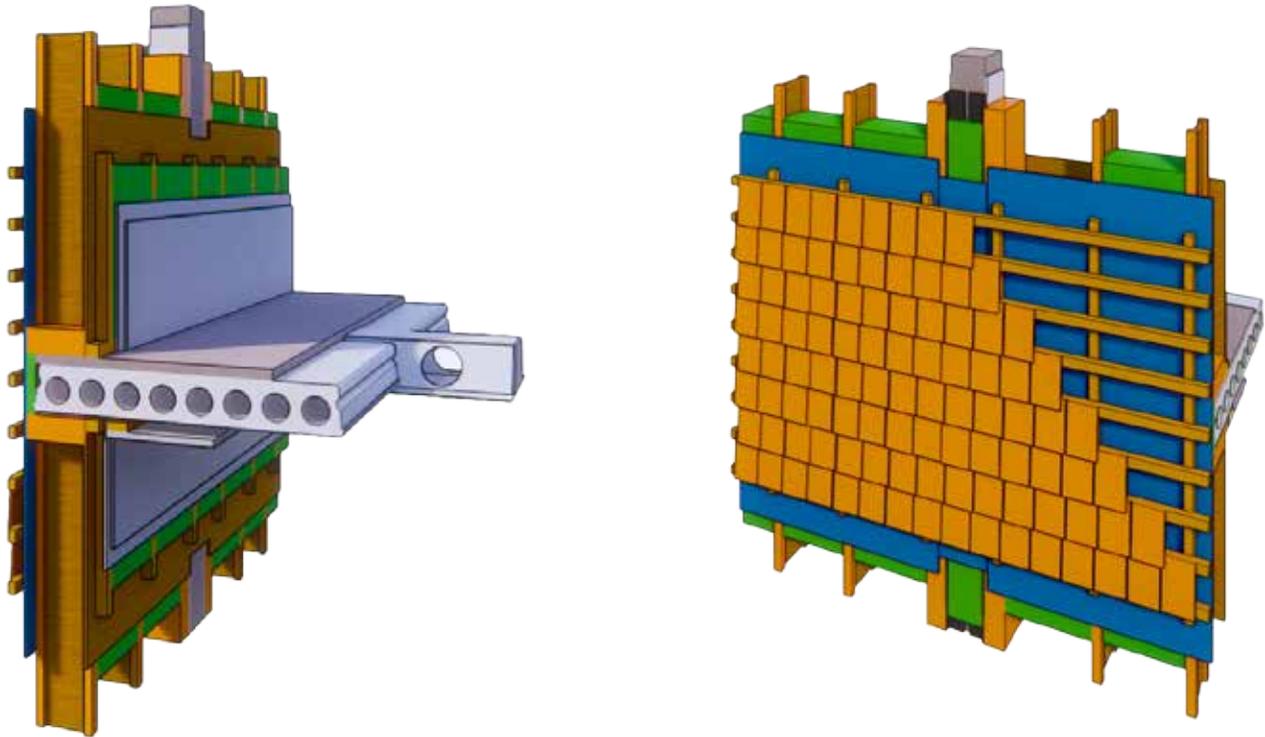


- FLOOR SLABS**
- 14. Screed, 40 mm (optional height)
 - 24. Hollow Core Slab (50 Slab), 100mm
 - 21. Bottom, 50x50mm
 - 22. Trondheim Acoustic panels, 30mm

- FLOOR SLABS**
- 17. Junctions Handbed Floor, 20mm
 - 18. Screed, 40 mm
 - 24. Hollow Core Slab, 100mm
 - 21. Bottom, 50x50mm
 - 22. Trondheim Acoustic panels, 30mm

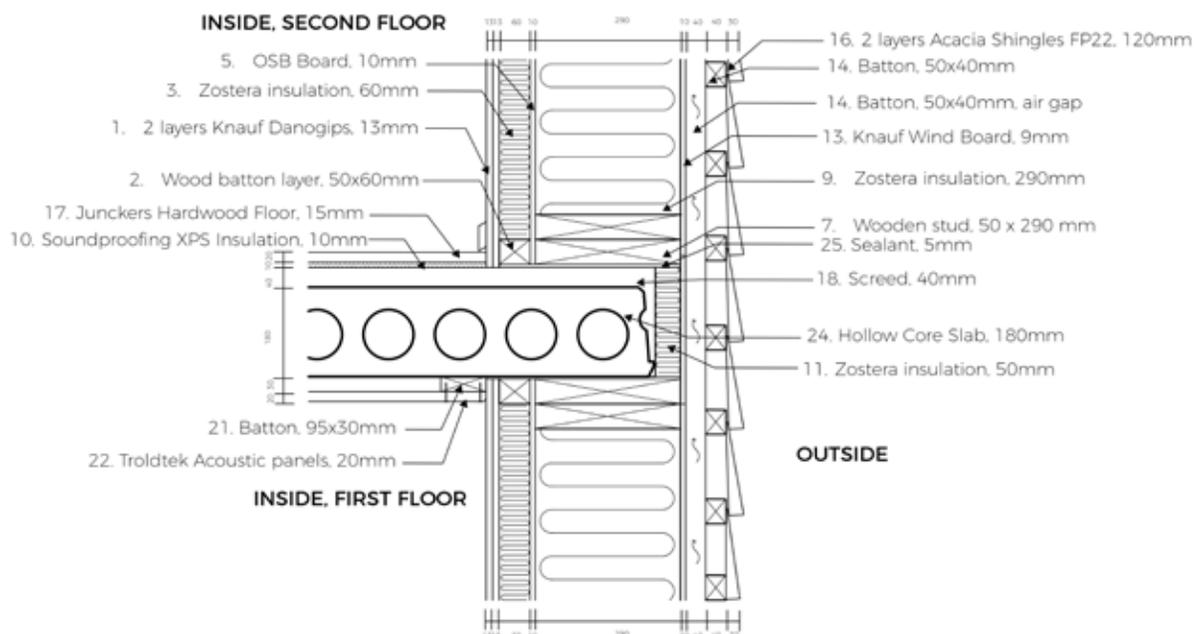


TECHNICAL DETAILS

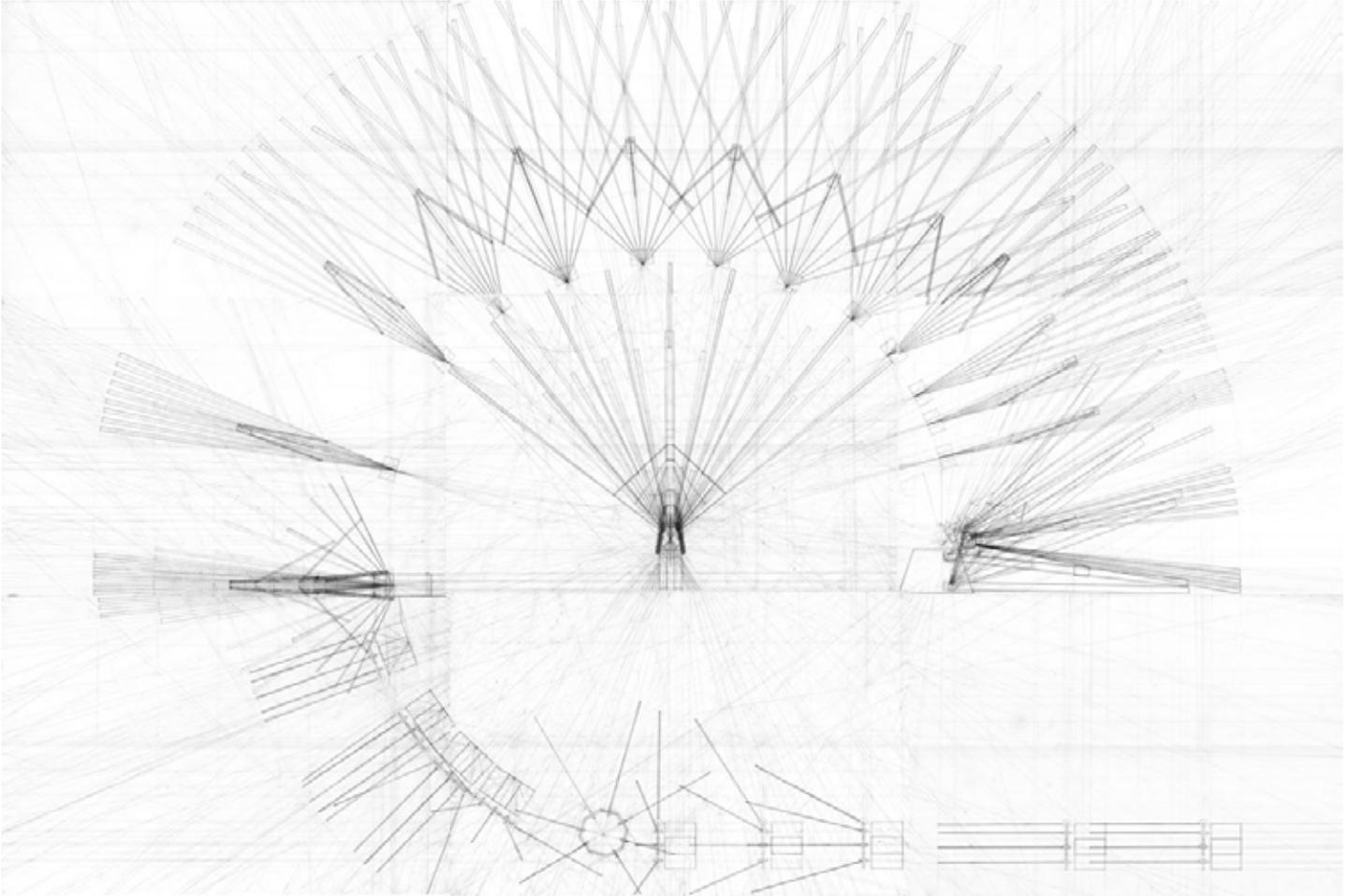


3D Detail Model showing the connection between the second and first floors.

FIRST FLOOR / SECOND FLOOR JUNCTION



Prefab structure and seaweed insulation ensures a lower carbon footprint than traditional concrete buildings..



Group drawing with Tara Chen Sue and Vanille Fricker

03. INSTRUMENTAL ARCHITECTURE

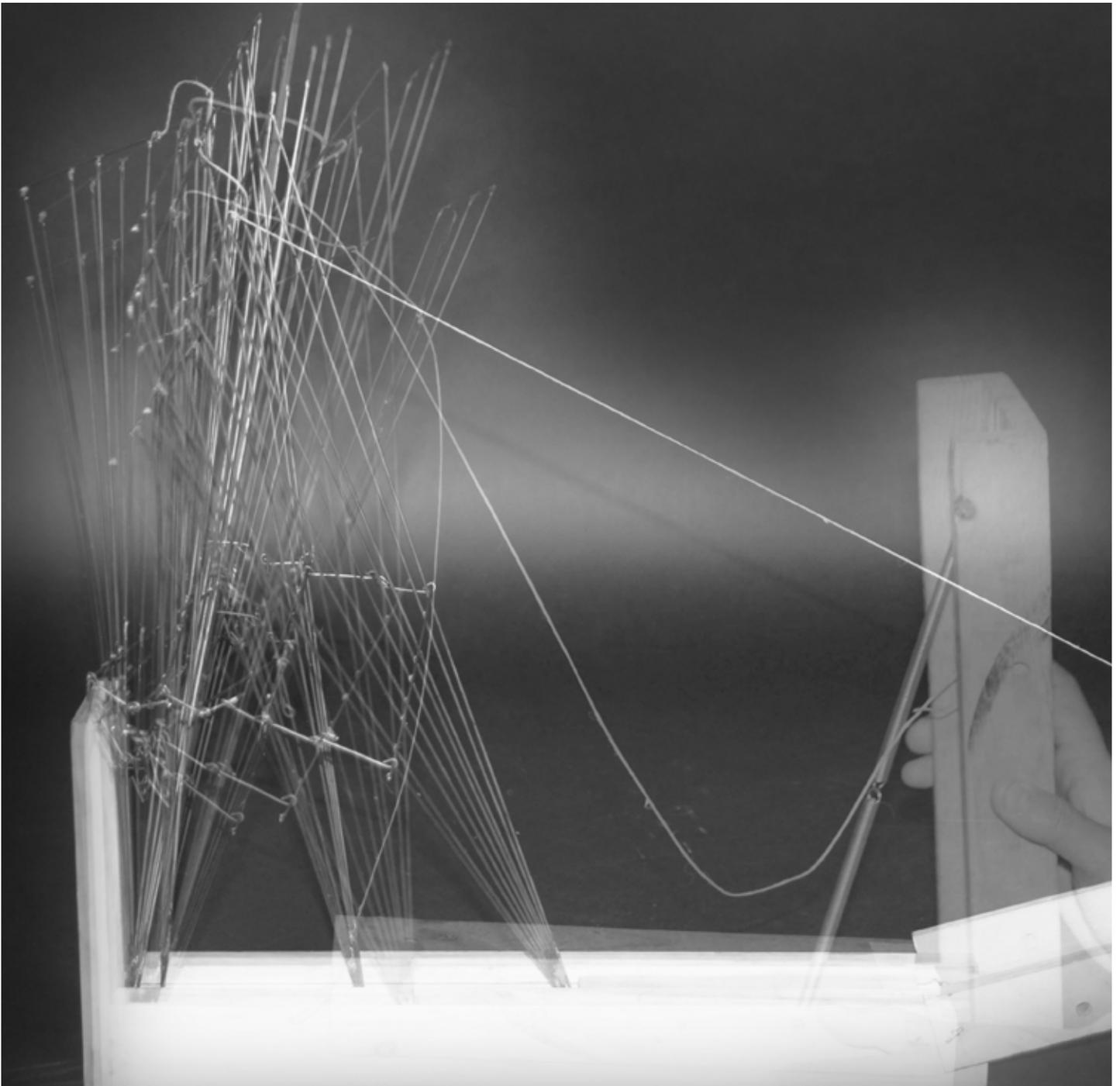
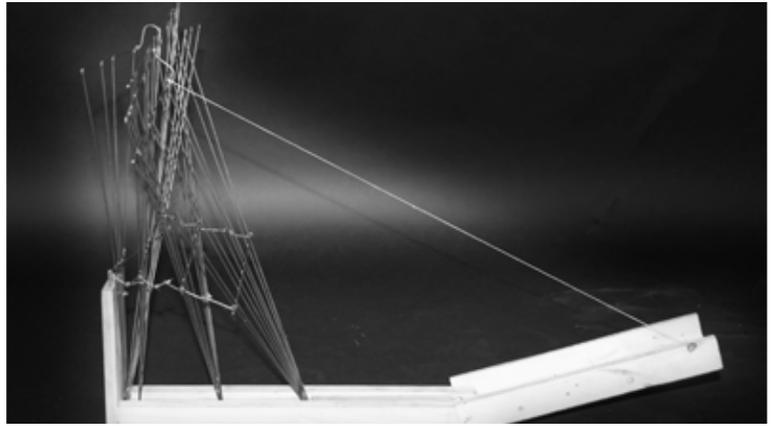
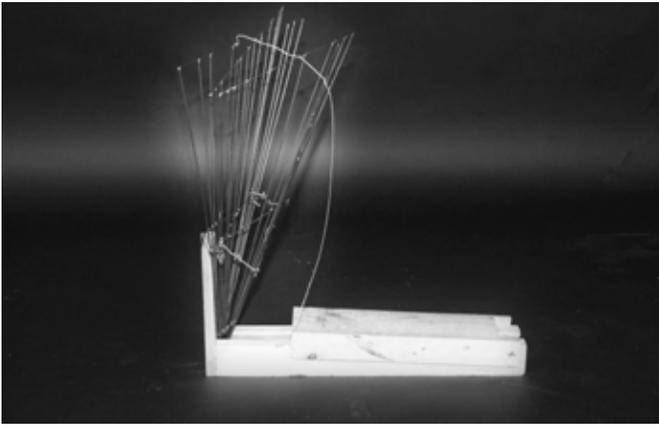
Aug 2014-Dec 2014
Cornell University
1st Semester, Individual Project

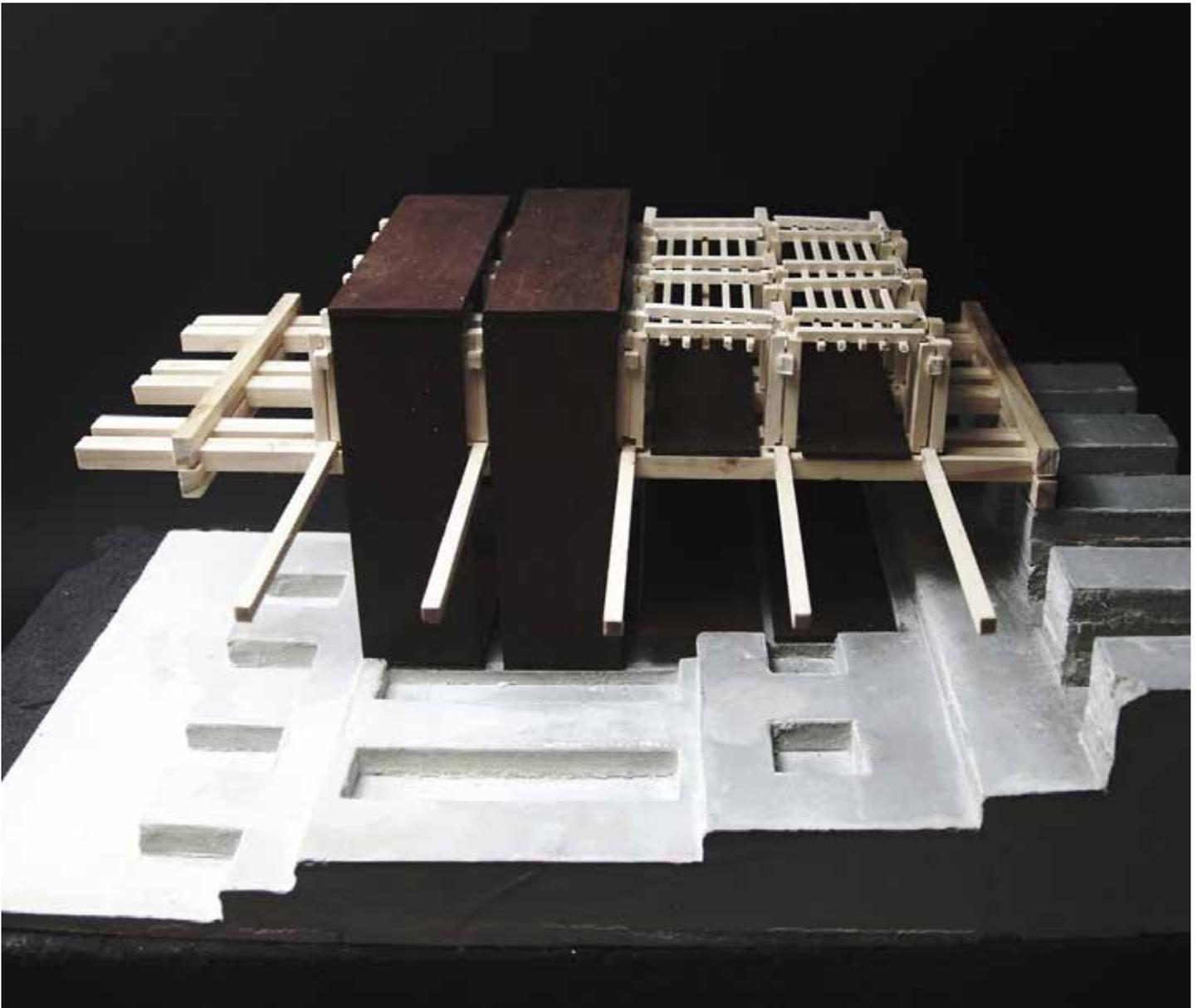
Semester Supervisor: James Williamson and Lorena Del Rio

This was a semester long individual project inspired by Theo Jansens Strandbeests. The assignment was to analyze the tool of an assigned animal (in this case, a peacock and its tail), and create a moveable tool to represent this animal.. There had to be a mechanism integrated to make the tool move. I based mine off of a stapler's refilling hinge in order to open and close my tool explosively.

As a part of this semester, students with the same animal were assigned to create a group drawing together of our tools combined. The drawing had to clearly represent our assigned animal without being literal..

PEACOCK TOOL





04. THE GRIDDED NECROPOLIS

Jan 2015-May 2015
Cornell University
2nd Semester, Individual Project

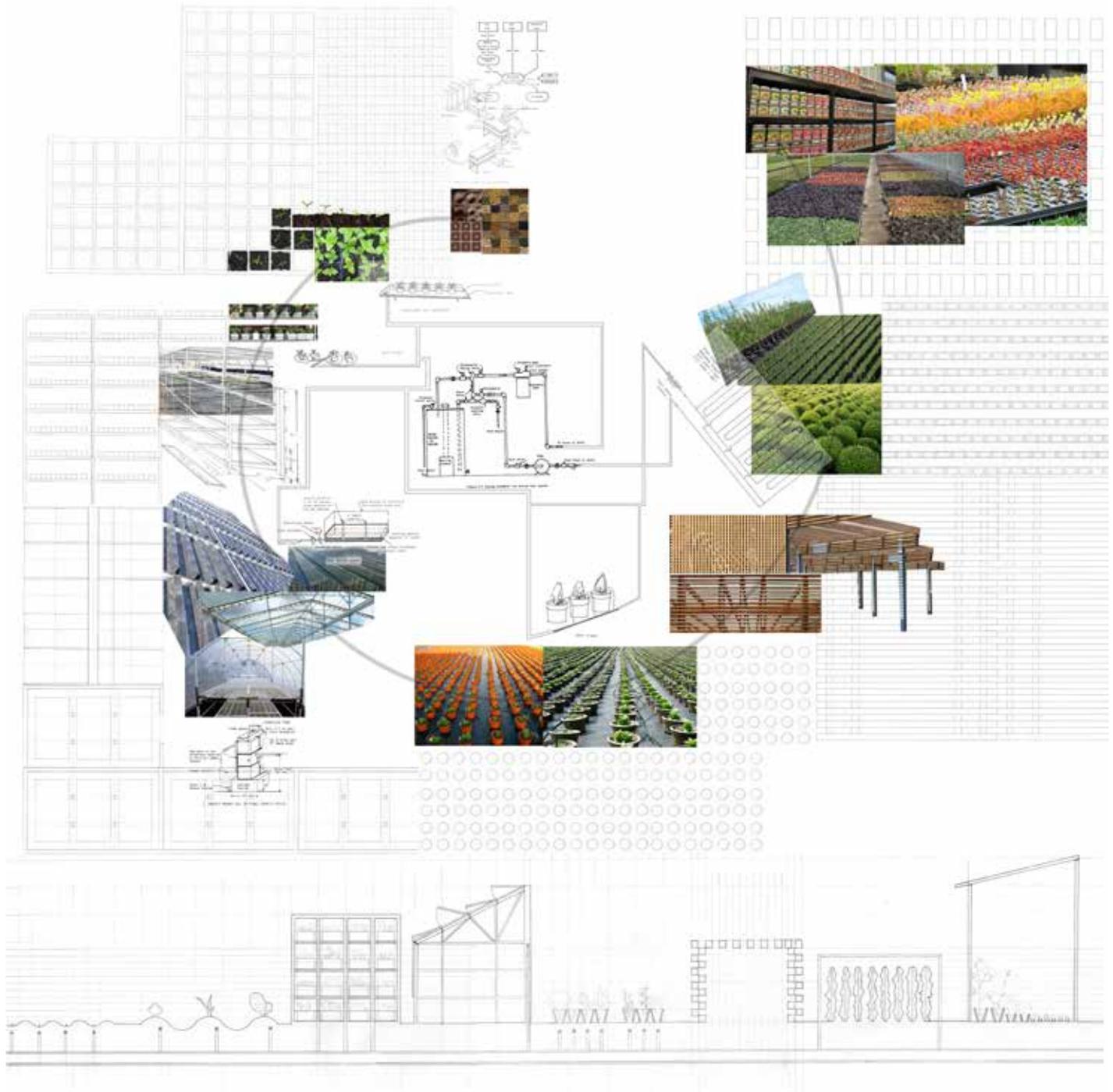
Semester Supervisor: James Williamson and Lorena Del Rio

This was a semester long individual project. The assignment was to analyze both an assigned architecture precedent (a plant nursery) and a house (Hemeriscopium House, Ensemble Studios 2008) through architecture models and drawings. Then both analyses were combined to create a family cemetery. The surrounding site was to be modified according to the tectonics of the family cemetery.

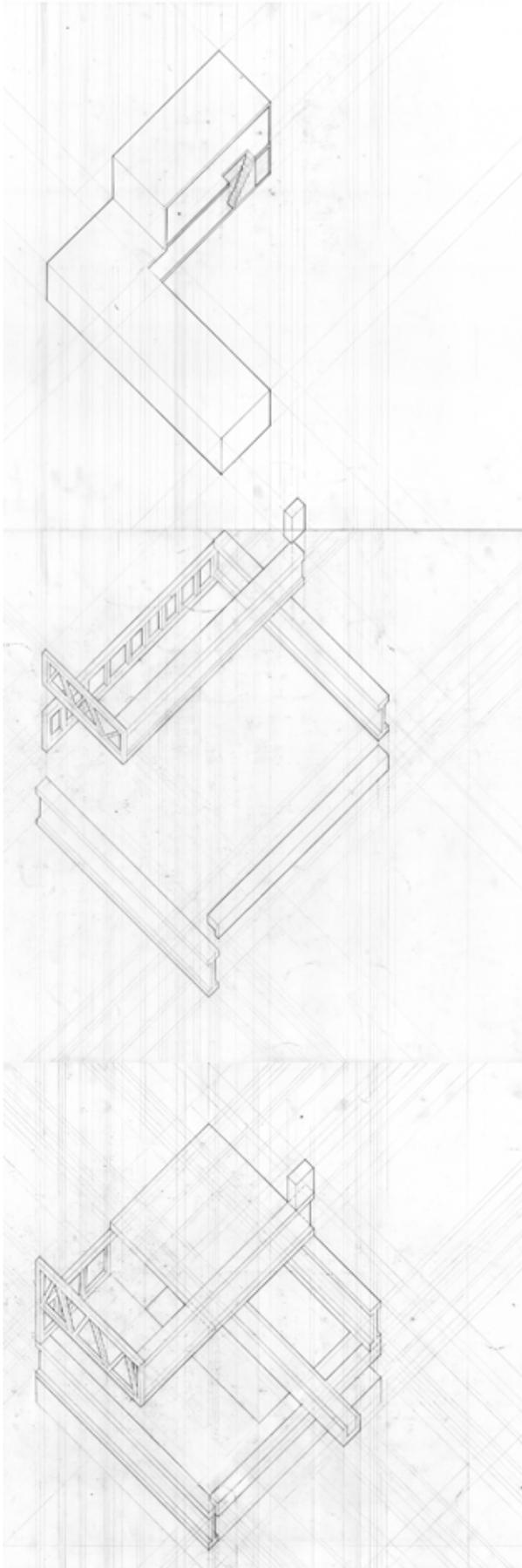
As a part of the semester, students with the same historical precedent had to create a research collage showing our building's function with a flow. The collage combined individual hand drawings and research images. I drew the plant nursery shelving for this collage.

For the analysis of the plant nursery, I focused on exploring the hierarchy of grids within the shelving and storage units through model and drawing. For the analysis of the hemeriscopium house, I focused on solids and voids through drawing. My final project, the Gridded Necropolis incorporated both of these ideas into both its structure and site.

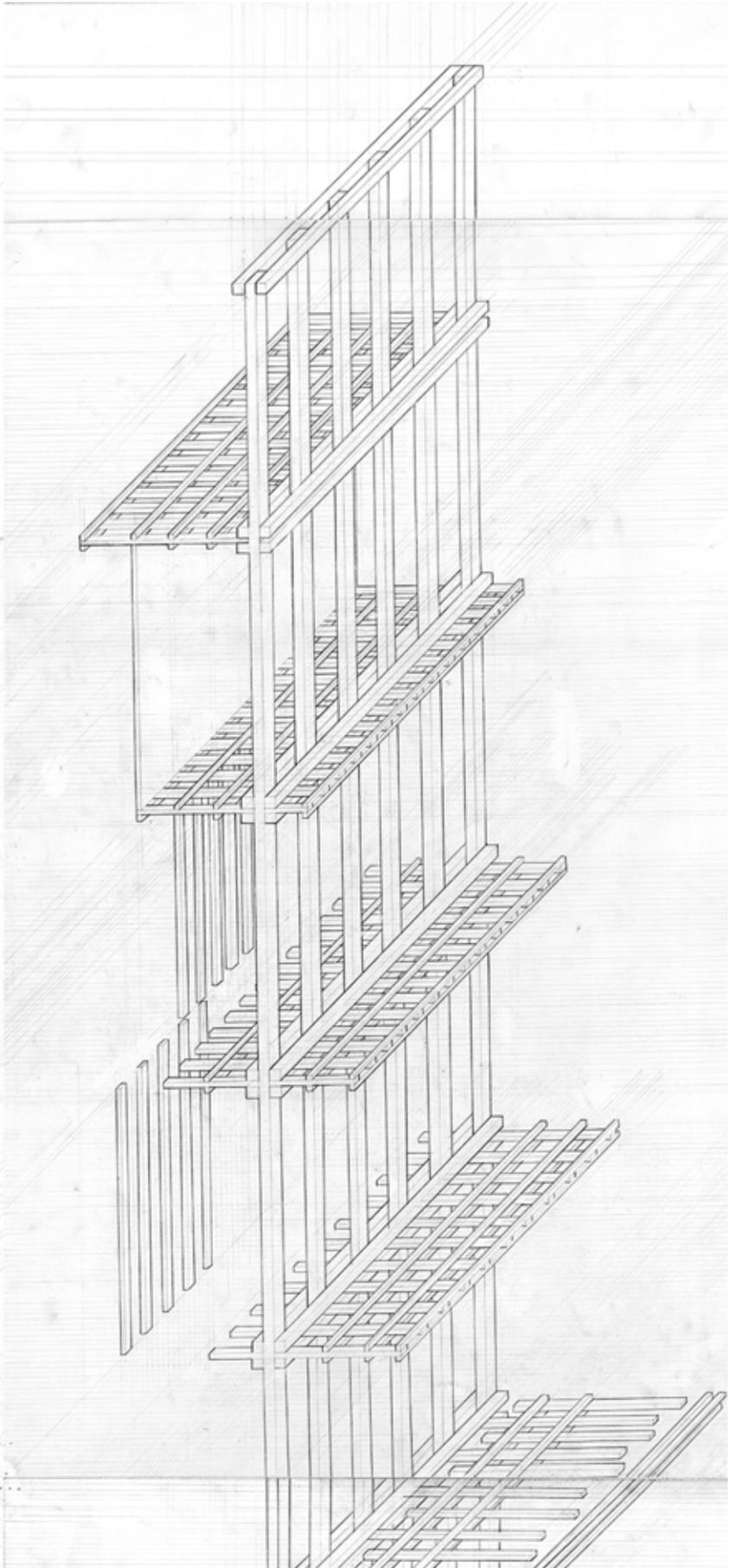
GROUP COLLAGE



DRAWING ANALYSIS

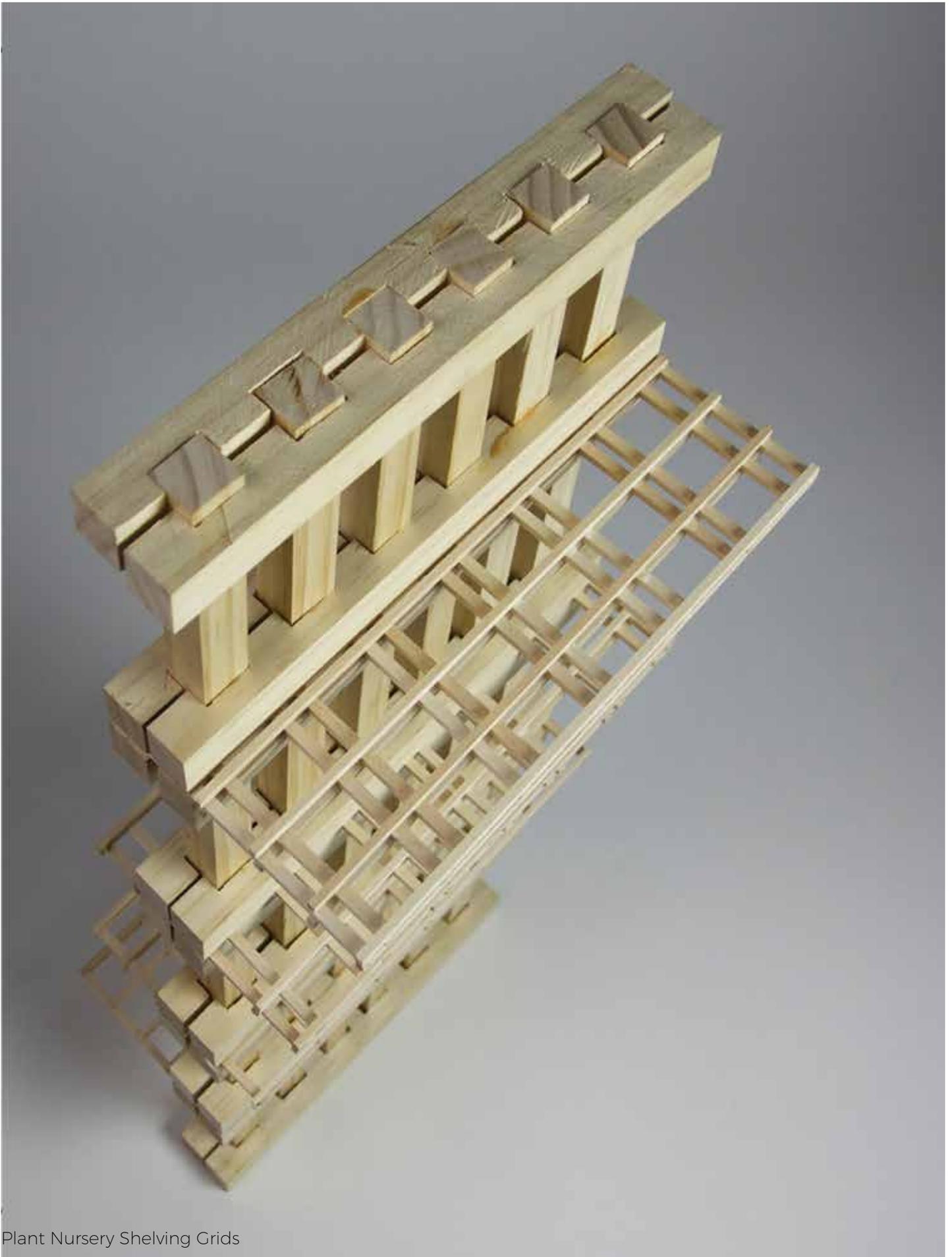


Hemeroscopium House



Plant Nursery Shelving Grids

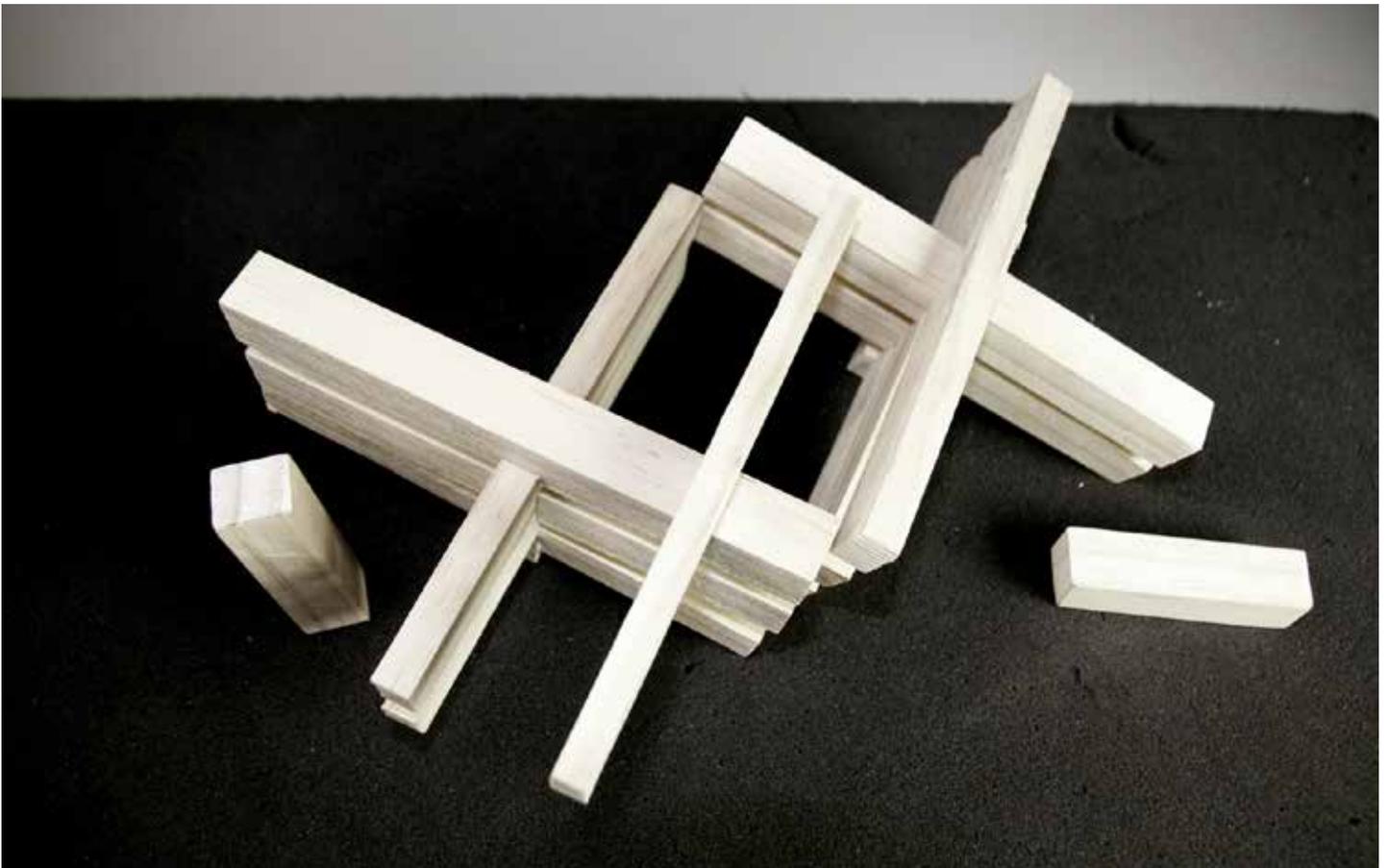
MODEL ANALYSIS



Plant Nursery Shelving Grids

04. THE GRIDDED NECROPOLIS

MODEL ANALYSIS



Hemeroscopium House showing the physics principle behind the house. When the cornerstone piece is removed, the model collapses

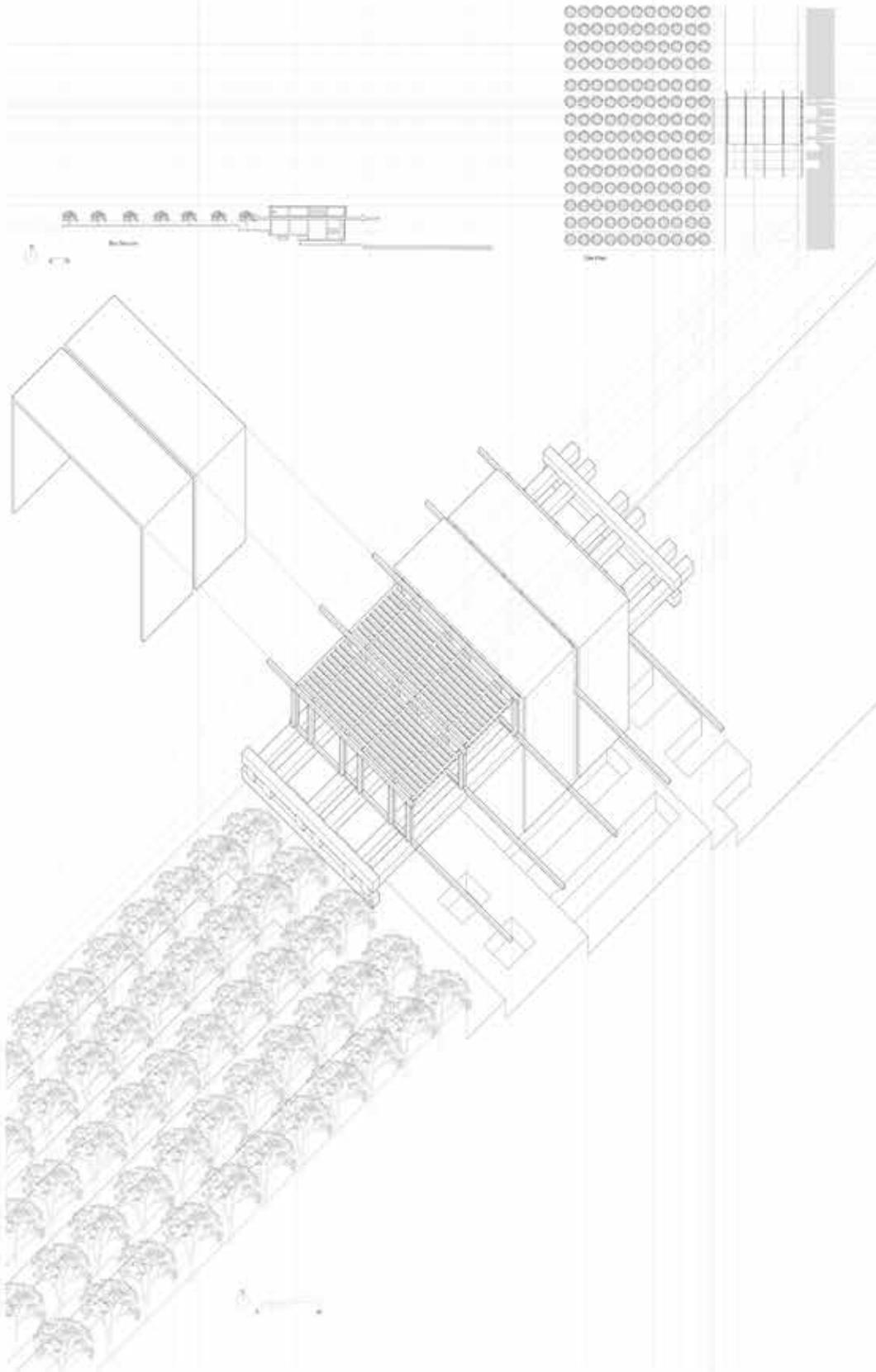
RENDERS



04. THE GRIDDED NECROPOLIS

FINAL DRAWINGS

The Gridded Necropolis
The grid is a key element of the design, defining the layout of the necropolis and the placement of the structures. The grid is a key element of the design, defining the layout of the necropolis and the placement of the structures.



東京駅

TOKYO STATION



05. ASSORTED SKETCHES

2013-PRESENT
Individual Work

I have kept sketchbooks since moving to Tokyo in 2013. I began to draw observationally to improve my abilities for architecture school, and now use it as a way to document the world around me. In 2016, I began sketching in Copenhagen with my local chapter of Urban Sketchers. Urban Sketchers are devoted to on-site observational drawing (without photographic reference) and the goal is to capture your local environment.

Sketching is an integral tool in my professional work process. I have been an advocate for integrating sketching into KEA's bachelor program, and educating other students on how to sketch from life.

My sketches and sketchbooks have been featured in Cornell University's AIA Sketch Exhibit, Immigrant Art Association, The Orange Giftbag Blog, and Dansk Industri's Expat in Denmark social media.

SLAGELSE FACADES

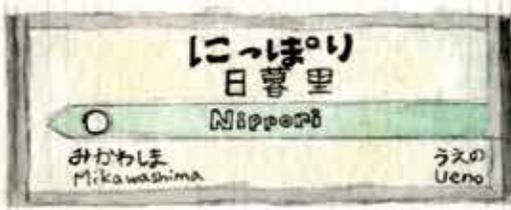
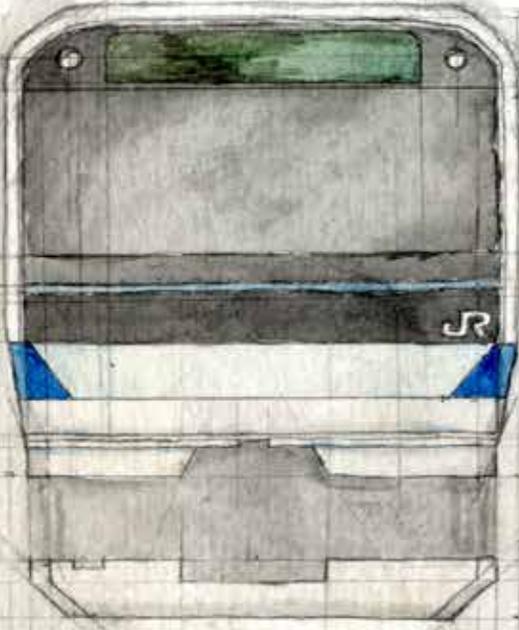


SUMMER 2016



常磐線
じょう ばん せん

電車
でん しゃ



March 28th
2014

