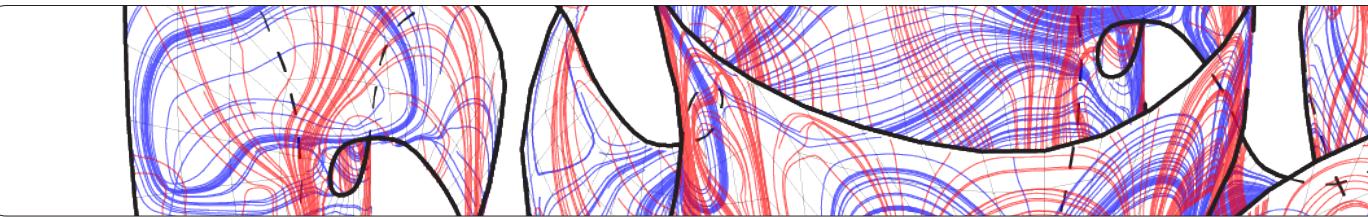


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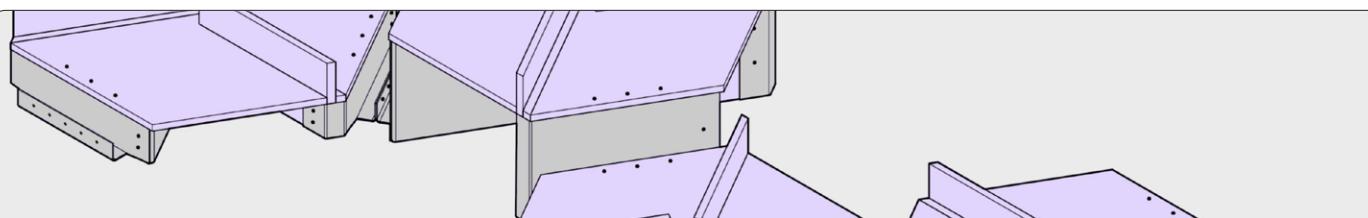
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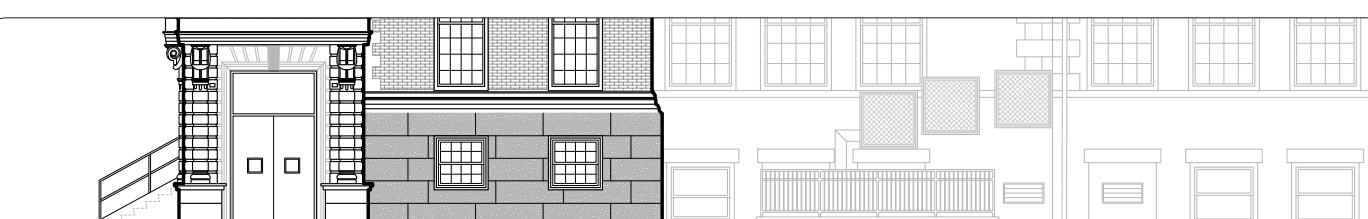
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10-13 | Teaching Work



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P.S. 137

Bowtie

Sound-scape

Bowtie

Spring 2021
Graduate Research

Professor:
Nicholas Bruscia

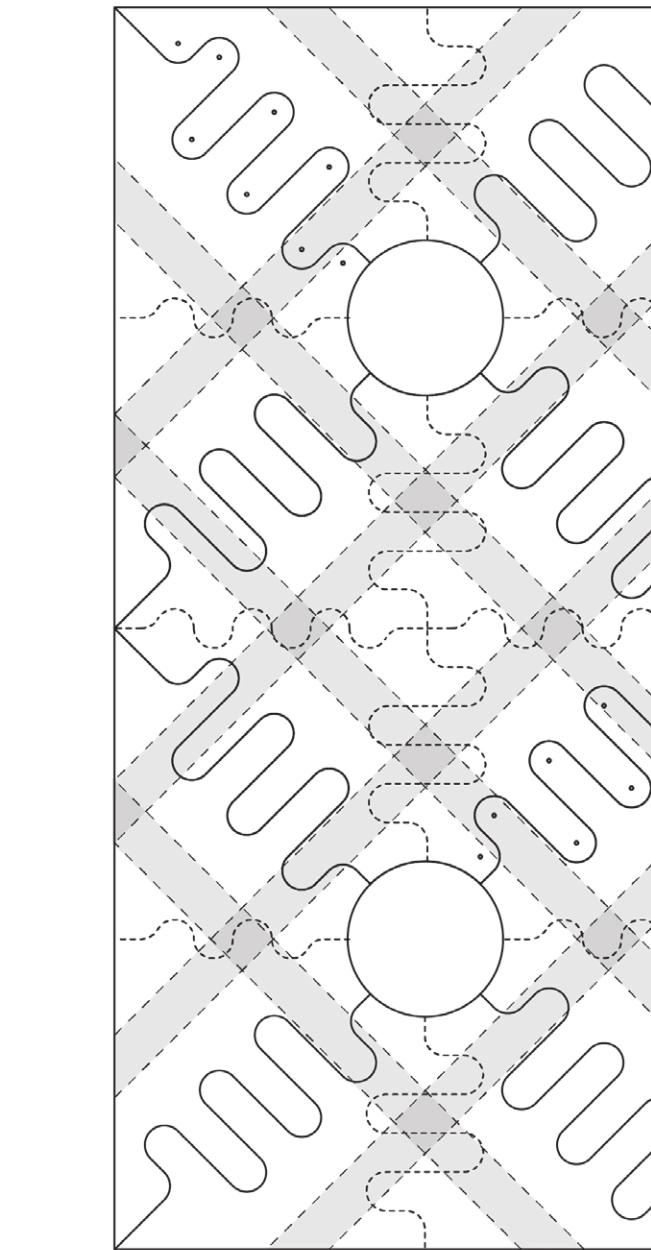
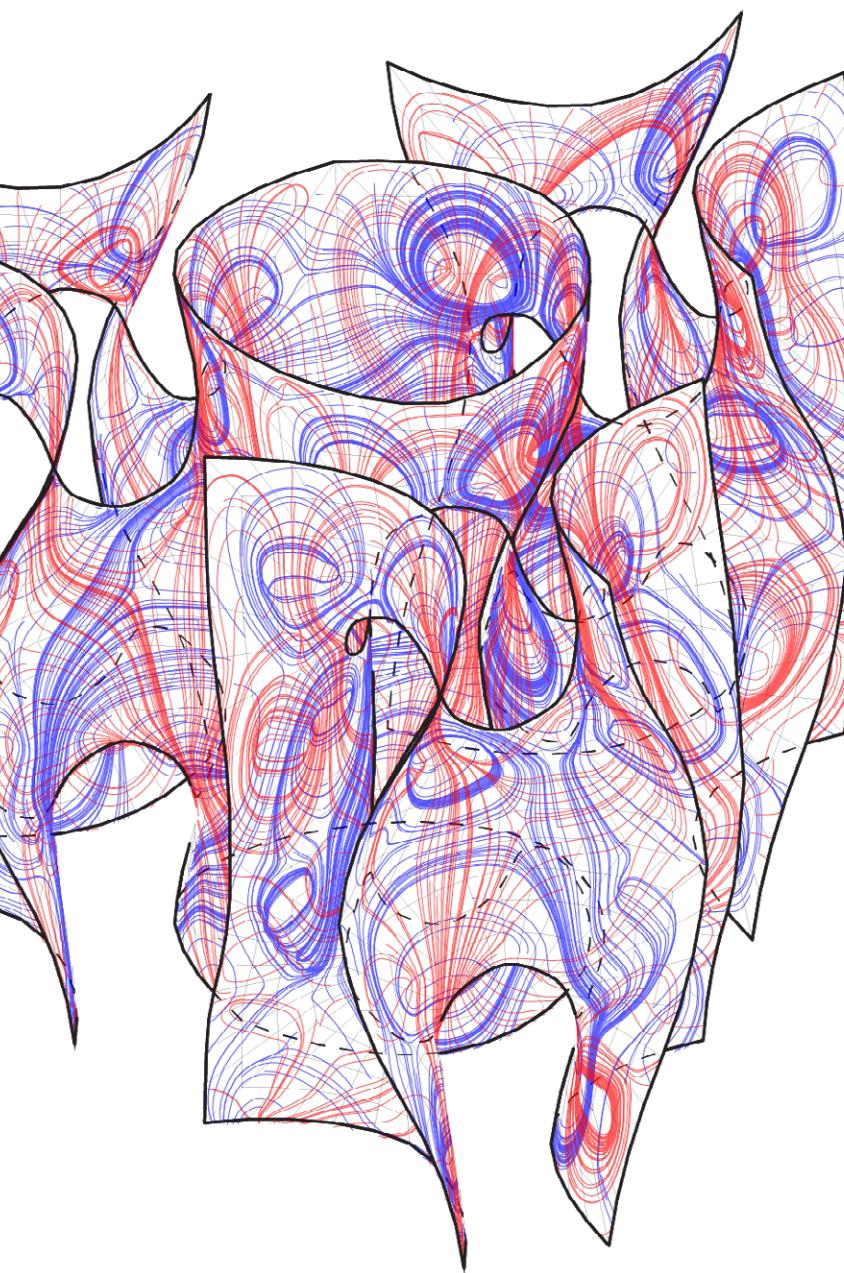
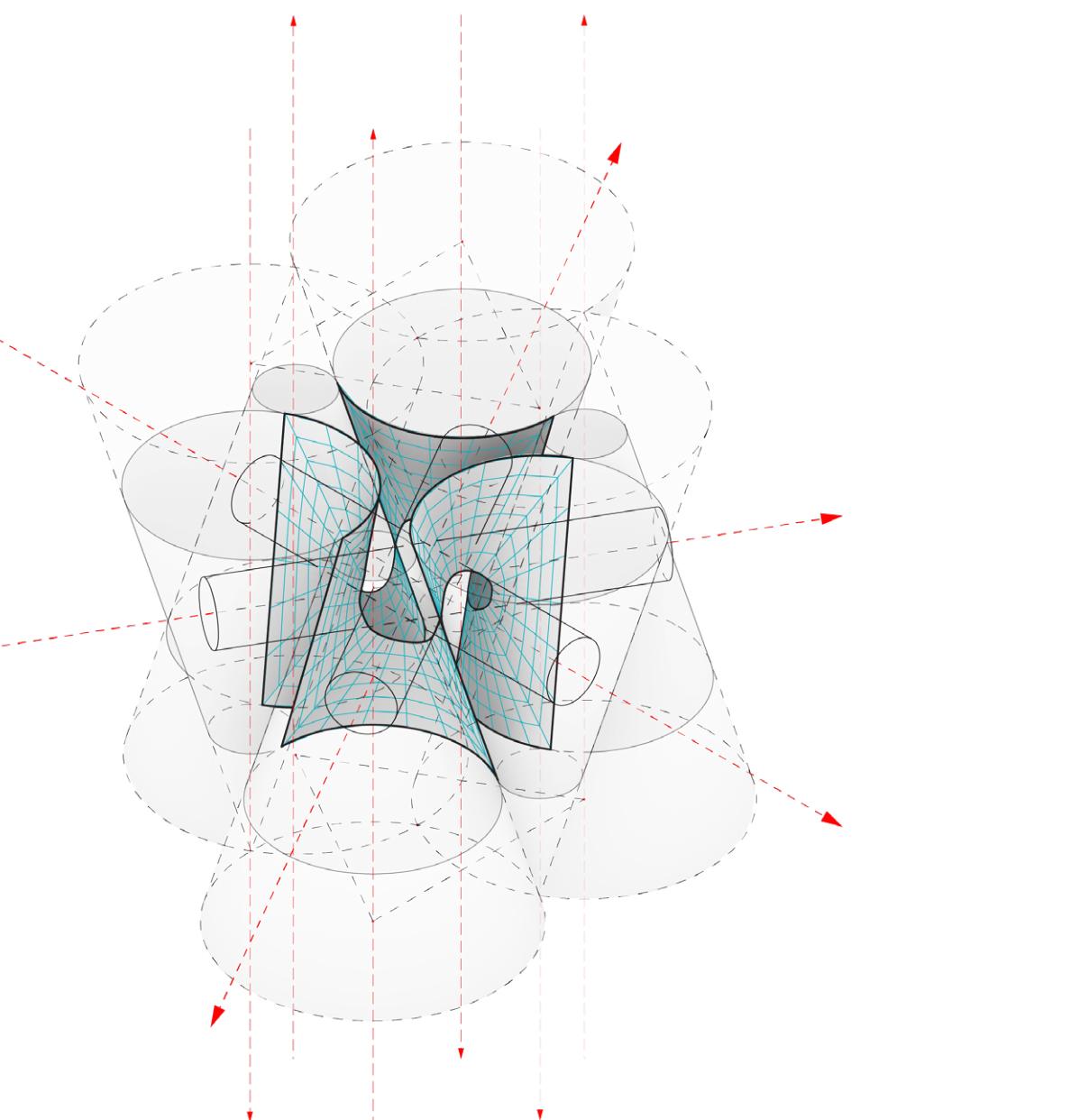
Partners:
Marissa Hayden
Sam Goembel
Tom Cleary

The studio split into three groups, and our group selected Marissa Hayden's model to proceed with.

Her model was symmetrical along its three axes, allowing it to be aggregated and stacked, which we did six times.

We utilized a hybrid analog+digital approach to develop Bowtie. I led the digital workflow, creating Grasshopper scripts to generate, planarize, and relax the mesh and to test and analyze its behavior under tensile and compressive forces. These studies informed seam placement, segmentation, and overall form development.

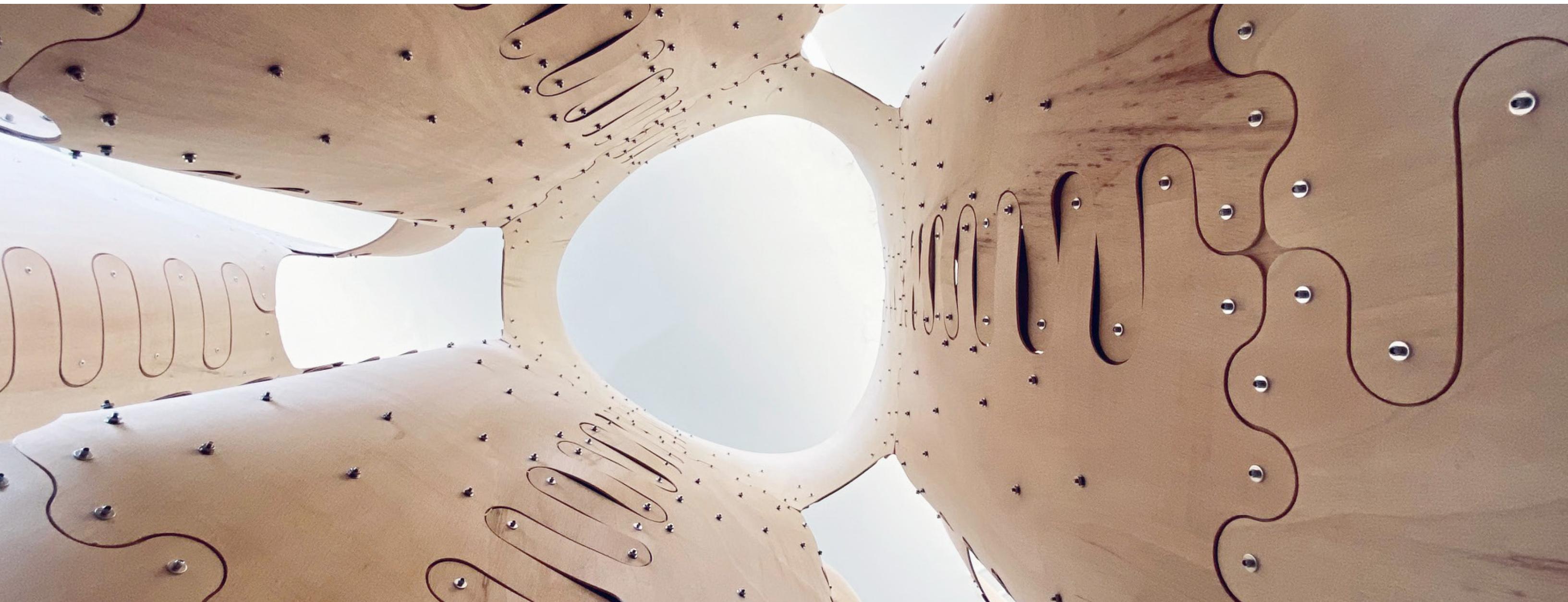
In parallel, we iterated through physical models at multiple scales and prepared the final flat files used for CNC fabrication.



Bowtie

This is the final design fabricated by our team, constructed from 23 sheets of 4'x8'x1/8" plywood.

The assembly uses a combination of nuts, bolts, and rivets, allowing Bowtie to break down into segments for transport through a standard doorway and loading into a box truck. All components were prepared as flat CNC-cut parts and assembled on site, translating the digital simulations and seam logic developed into a full-scale physical structure.

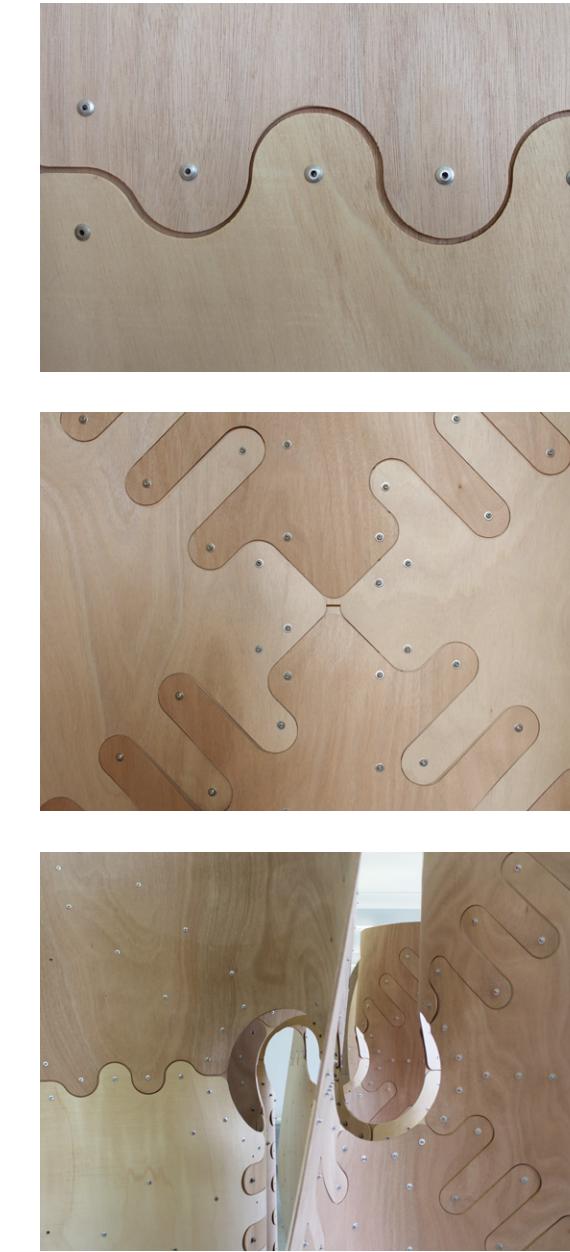
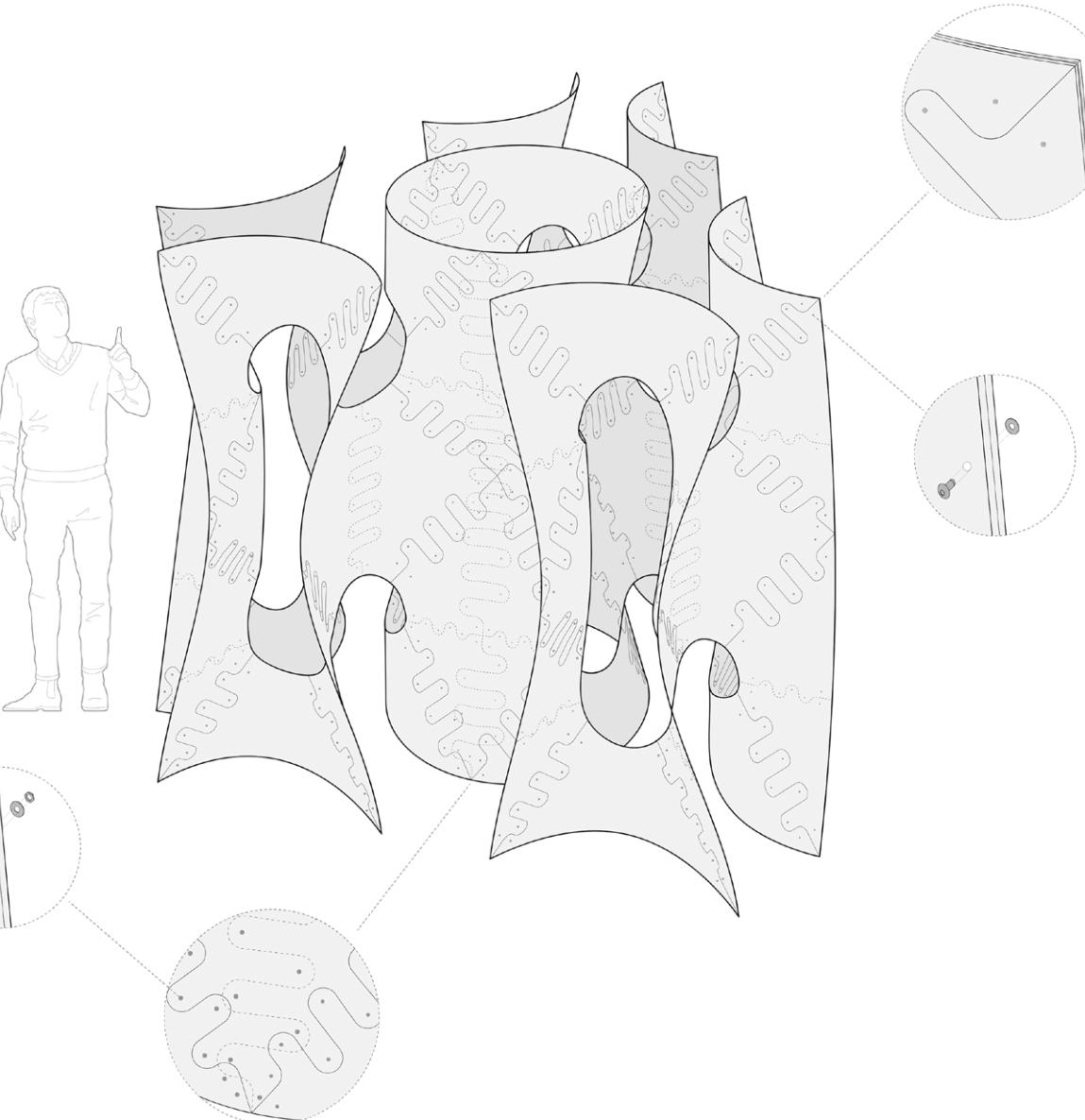


Bowtie

Based on our analysis and testing, we varied panel patterns, fastening strategies, grain orientation, and plywood selection to control for stiffness and curvature across the surface. These adjustments allowed the system to accommodate localized structural demands while maintaining overall continuity.

The completed installation demonstrates how complex curvature can emerge from simple, repeatable flat parts informed by material behavior and digital analysis.

The project is currently on display at Abbott Library, with future plans for exhibition at a children's museum.



Soundscape

Spring 2021

Teaching Work - First Year
Undergraduate Studio

Professors:

Stephen Kramer
Korydon Smith
Martha Bohm

Students:

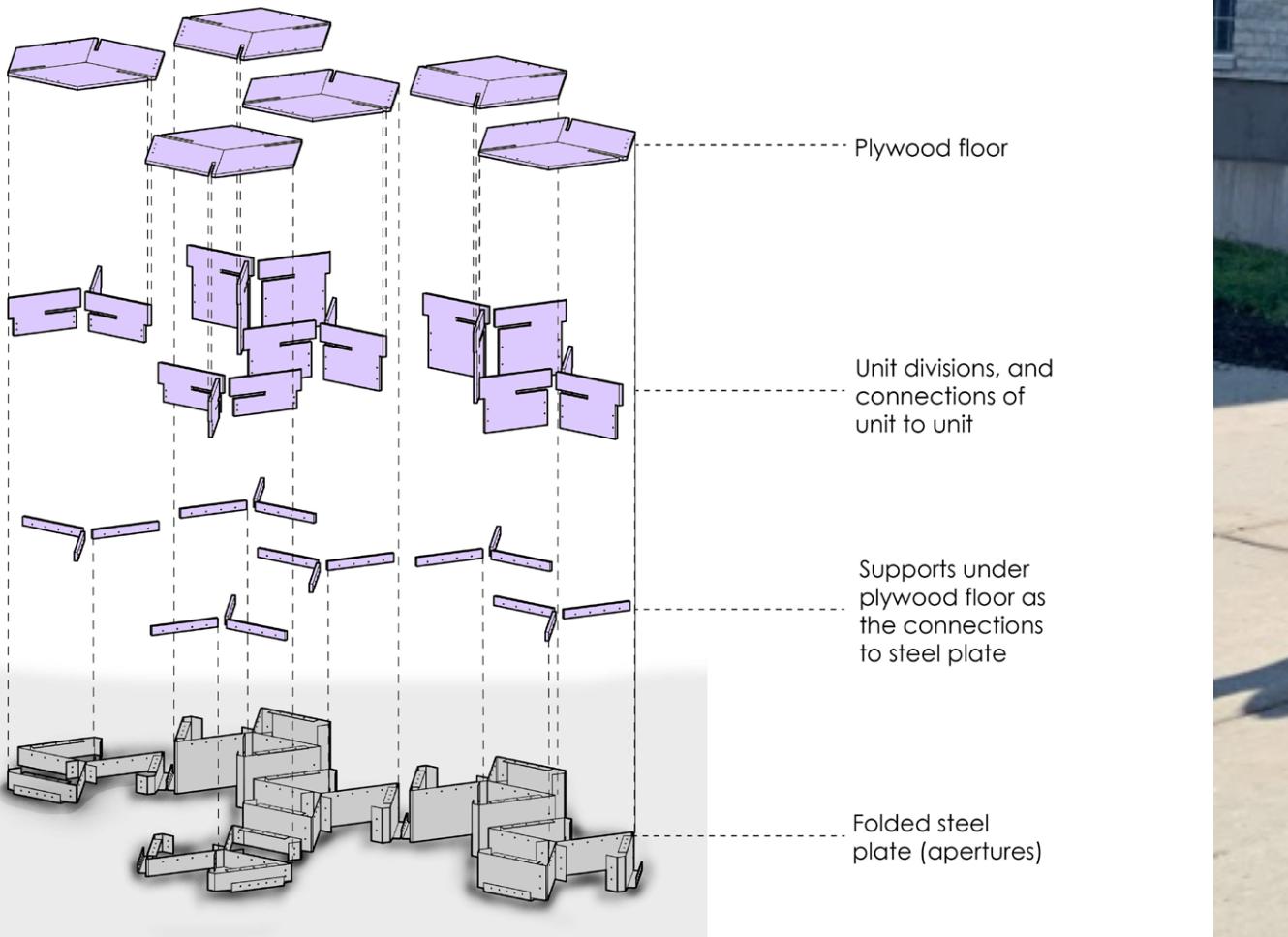
Mark Chen
Brian Eng
Joseph Glatz
Zachary Izzo
Kwan Sin Sze

The objectives of the second semester were to teach the Architectural Design Process through the exploration of materiality, systemic reasoning, iteration, and ideation. This was accomplished through sketching, drafting, physical and digital model making, and visualization.

Under the supervision of Professors Kramer, Smith, and Bohm, I led a studio of students. The students were organized into several smaller groups of three to five.

Mission statement:

"Using folded steel plate and assembled plywood to create floor and aperture system inside a building that will allow for passerbys of any age to walk across it and play with sound"



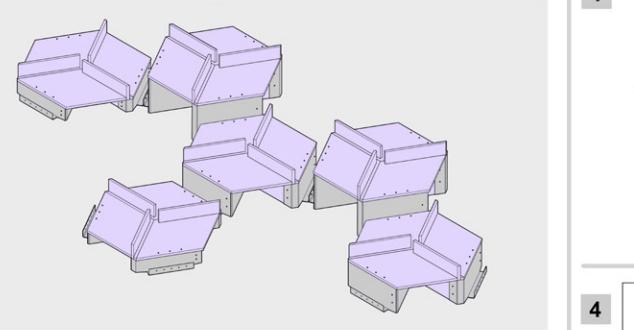
Soundscape

The resulting design was an infinite system that strictly adhered to a mission statement as defined by the students.

I met with my studio three times a week. Throughout the semester, I guided students through the architectural design process, supporting ideation and iteration through drawing markups, model reviews, and regular critique. I led workshops on material characteristics, fabrication methods, drafting conventions, and visualization techniques.

I facilitated studio reviews, supported material procurement and scheduling, and worked closely with students to help them articulate and develop their ideas. As this was only their second semester of architectural education, this guidance helped students gain confidence and clarity as they translated early concepts into resolved designs.

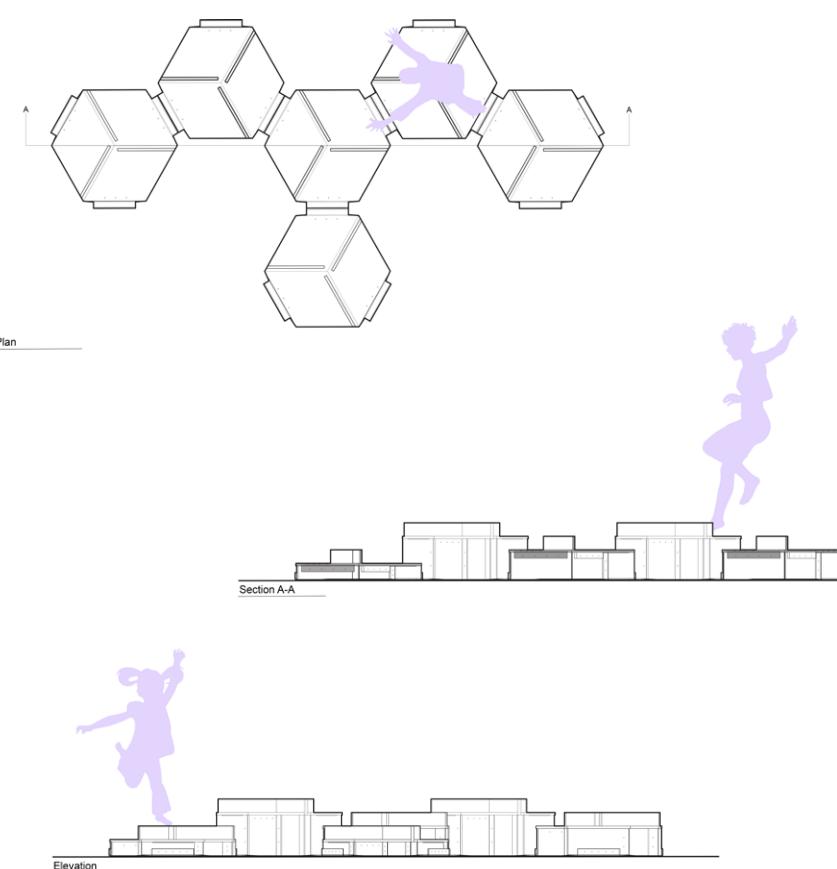
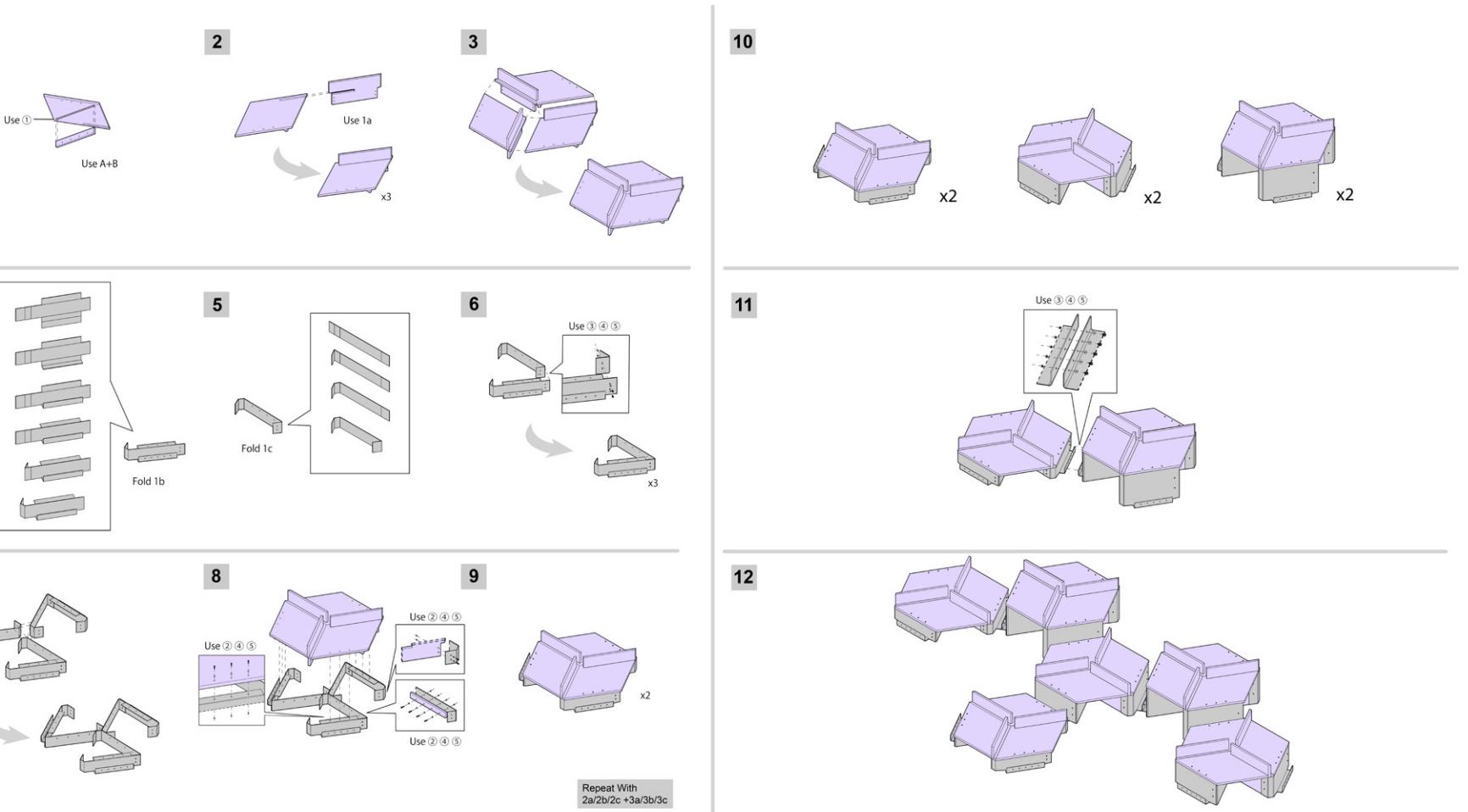
Assembly Drawing



Tool List

- Cordless drill
- 1/4" Drill bit
- Adjustable Wrench

- ① Brad nail (2" length)
- ② Steel Hex Head Screw (1-1/4" length)
- ③ Steel Hex Head Screw (1/2" length)
- ④ Steel Hex Head Nut (1/4" height)
- ⑤ Washer



P.S. 137

Spring 2023

Professional work - H2M
Architects + Engineers

AOR

Robert Wildermuth, RA

PM

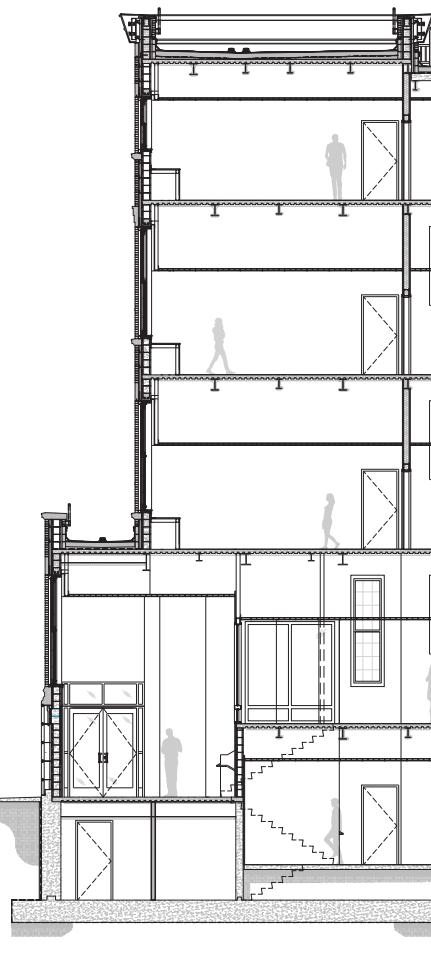
Kelly Greenfield, RA

Project Staff

Edith J. Altamiranda
Melissa Hoereth

P.S. 137 involved a comprehensive accessibility upgrade to an existing elementary school. Due to the building remaining occupied throughout the academic year, all surveying and construction were limited to a summer construction window, influencing project phasing, documentation, and coordination.

New construction was required to integrate seamlessly with the existing building, matching its scale, materials, and detailing. Coordination at transitions between old and new work made architectural detailing a central component of the design process.



P.S. 137

The project scope included updating the entire building to be ADA accessible, as well as the installation of a new fire protection system.

Additions included a new elevator serving all floors, Areas of Rescue Assistance (ARA), accessibility upgrades to existing toilet rooms and classrooms, new ADA-compliant toilet rooms, and stage and gymnasium modifications to ensure ADA compliance.

The work required close coordination across architectural, structural, mechanical, plumbing, electrical, and fire protection systems and was developed in accordance with New York City School Construction Authority (SCA) guidelines.

