

Fabrication

Honorable Mention



Project Title: Emerging Mutations 2

Student Name: Chad Harris , Christopher Price, Neil Werbelow, Matthew Archuleta, Luis Marquez, Ben Ortega, Jeremy Jerge, Mara Schweikert, Travis Bunch, Owen Kramme, Nick Byers, Hooman Keyhan Haghighi, Kobi Bauer, Elizabeth Suina

Level, Course: 4th year undergraduate, Architectural Design

Advisor/Instructor: Tim B. Castillo

Principal Investigator: Tim B. Castillo

Department: School of Architecture, University of New Mexico, Albuquerque, New Mexico

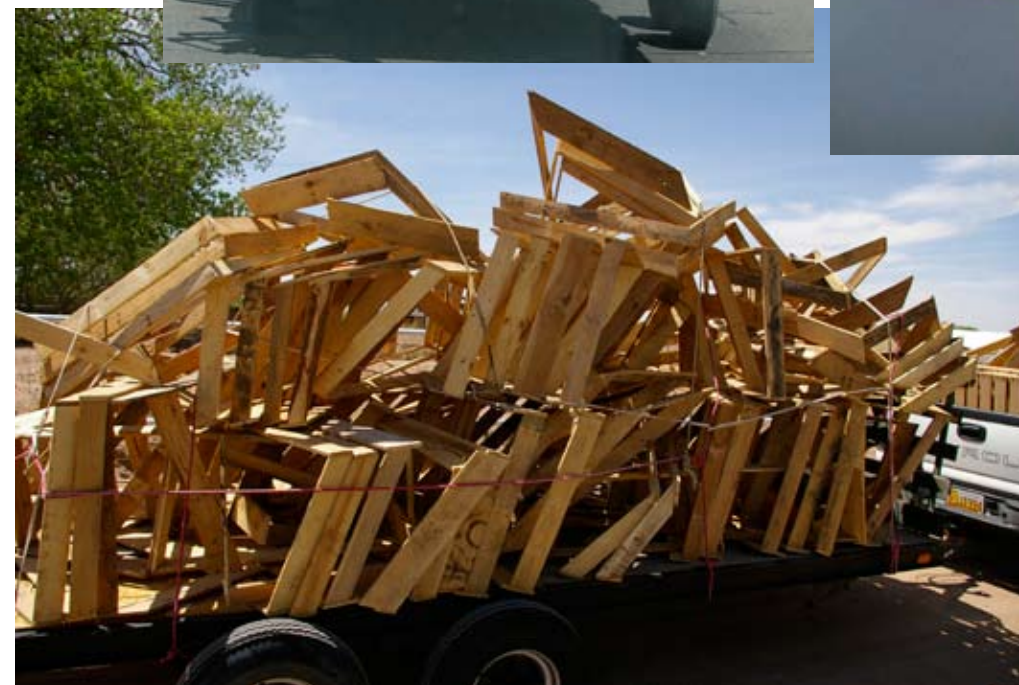
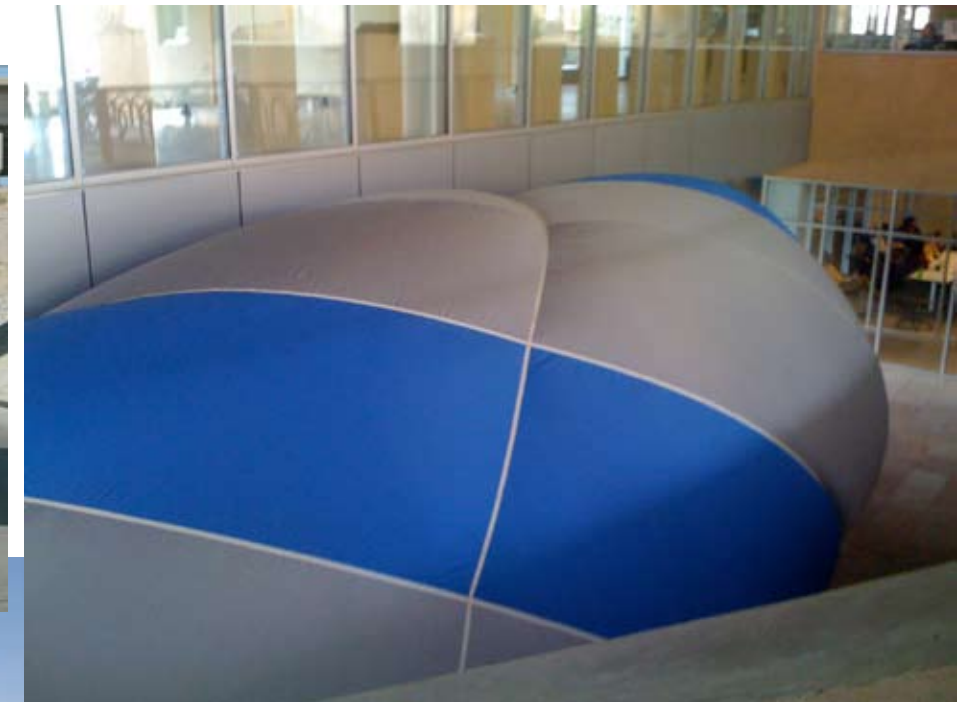
Summary Description of project:

In the state of New Mexico, where the economy has been greatly affected by the current recession, this studio was presented with the task of rethinking new models for developing architecture in the built environment. These students were asked to engage in the realm of digital fabrication and formulate more efficient and economical methods for creating space. Throughout the semester the students were immersed in learning how to work in the methodology of digital fabrication processes. The final project is intended to be full-scale installation that built on their research throughout the semester and incorporated recycled materials to create an event space for the student body of the School of Architecture at the University of New Mexico. The installation was fabricated from donated materials such as wooden palates, white plastic garbage bags and two hot air balloons. The studio researched the structural properties of these ready-made materials to understand how they could be applied to create an inspiring and innovative final installation. Utilizing **form•Z** and other computer software, the studio generated several schemes that were digitally fabricated and outputted at full-scale as a series of prototypes. The final scheme diverted from recent digital fabricated processes, integrating a more haptic translation that forced the students to conceive the design in slightly different manner than most digital fabricated projects of recently. The final result was a poetic installation that captured the essence of the raw nature of the materials and maximized efficiency in time and resources, keeping the project under \$200.00 for final construction cost.



The team

Donated materials



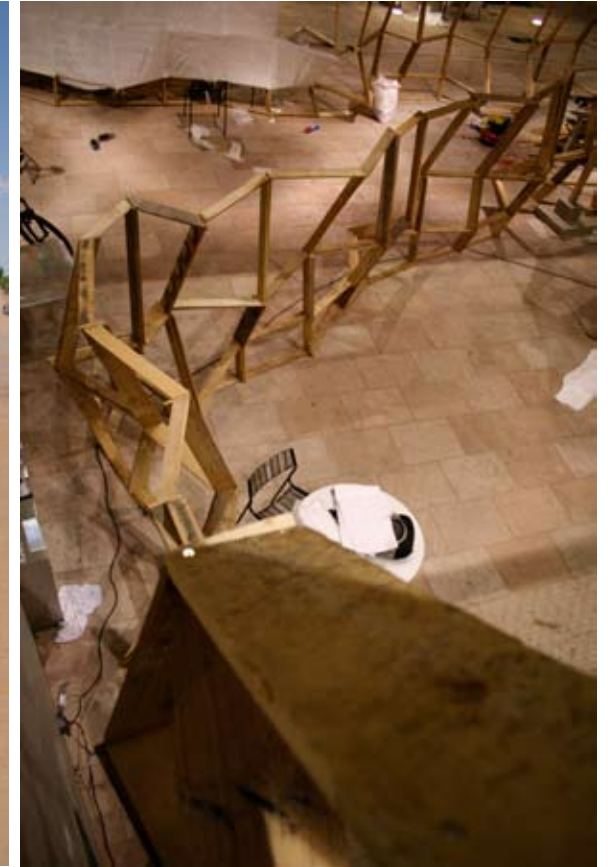
Reasons for which this student should be awarded:

This project should be awarded for the sheer complexity and ability to think about recycled materials in an innovative manner. The ability to both fabricate efficiently and keep material cost to a minimum, was a product of working in the digital environment. This type of research has tremendous application in the profession for rethinking how we fabricate and design in economically challenged times.

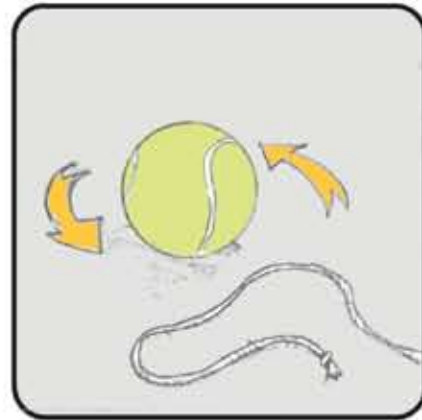
Jury Comments:

This is a project of an impressive magnitude and complexity, even for a team of 14 students. With such a team, coordination frequently becomes an issue, but this team managed to excel all the way to the end. There are so many aspects for which this work deserves to be commended: as a demonstration of imaginative recycling of old material and keeping the cost under \$200; as a successful application of computer driven fabrication methods; as a visually pleasing end result, and many more. Not to be neglected is the enthusiasm with which the students must have approached the project and is clearly reflected in the final result. Obviously that enthusiasm must have transcended beyond the team and appears to have triggered a “festival” for all the students.

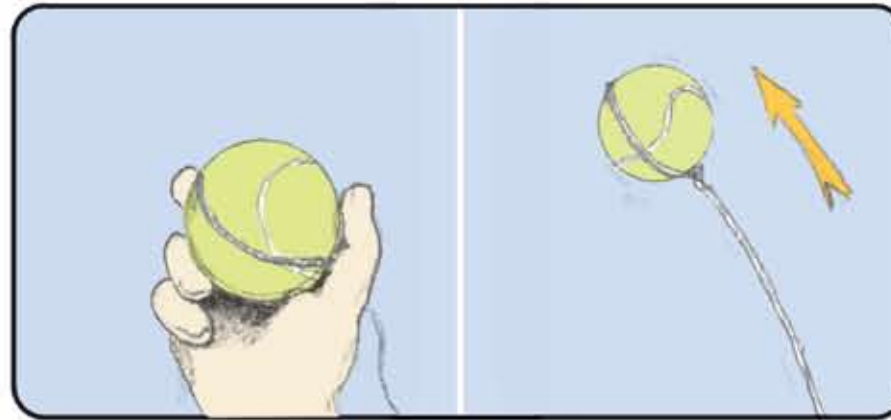




STRAPPING DIAGRAM PREPARING TO SAIL



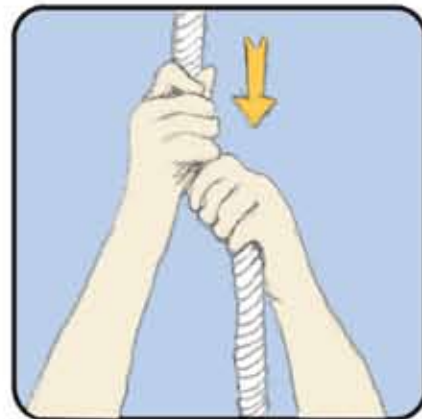
1. ATTACH LEADER TO BALL.



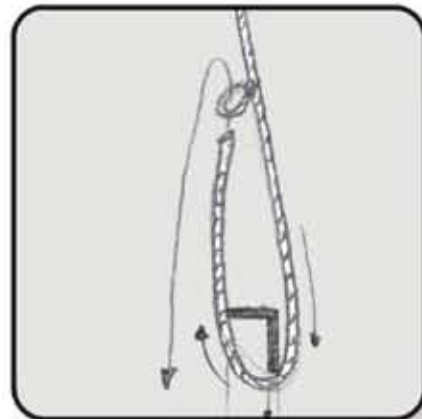
2. CAREFULLY THROW BALL OVER WALL.



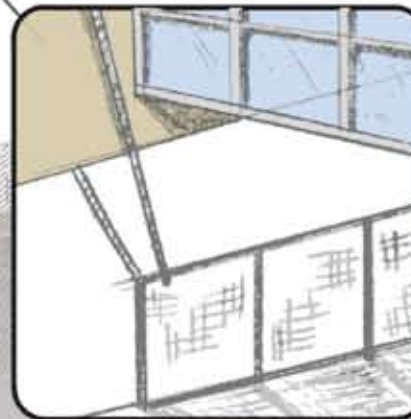
3. ATTACH OPPOSITE END OF LEADER TO NYLON ROPE. ATTACH PULLEY AT DESIRED HEIGHT ON NYLON ROPE.



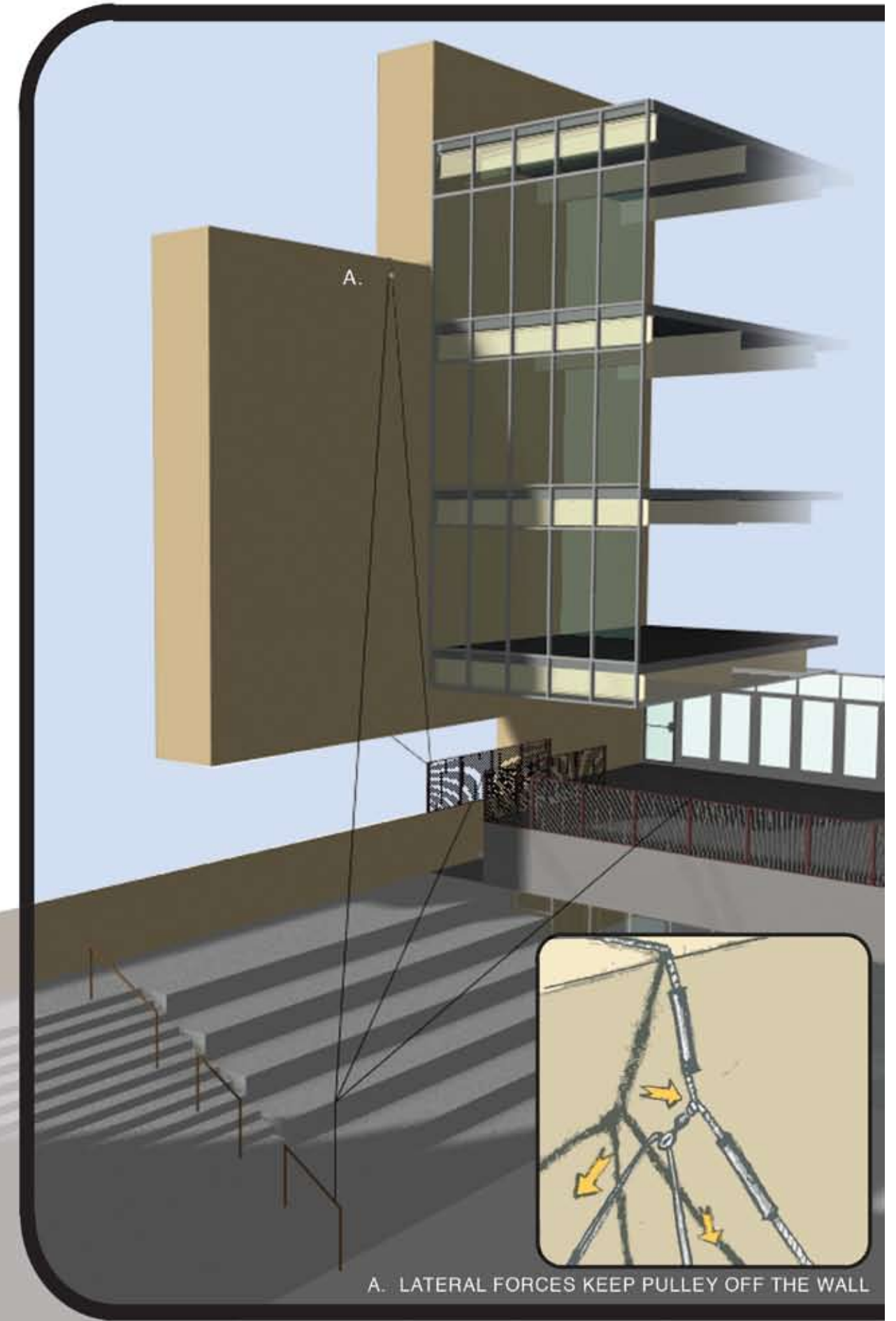
4. PULL ON LEADER ROPE.



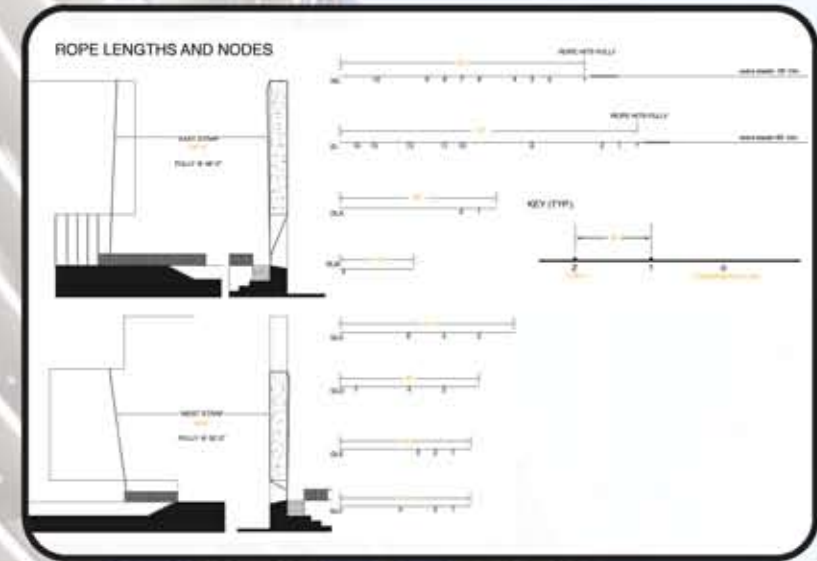
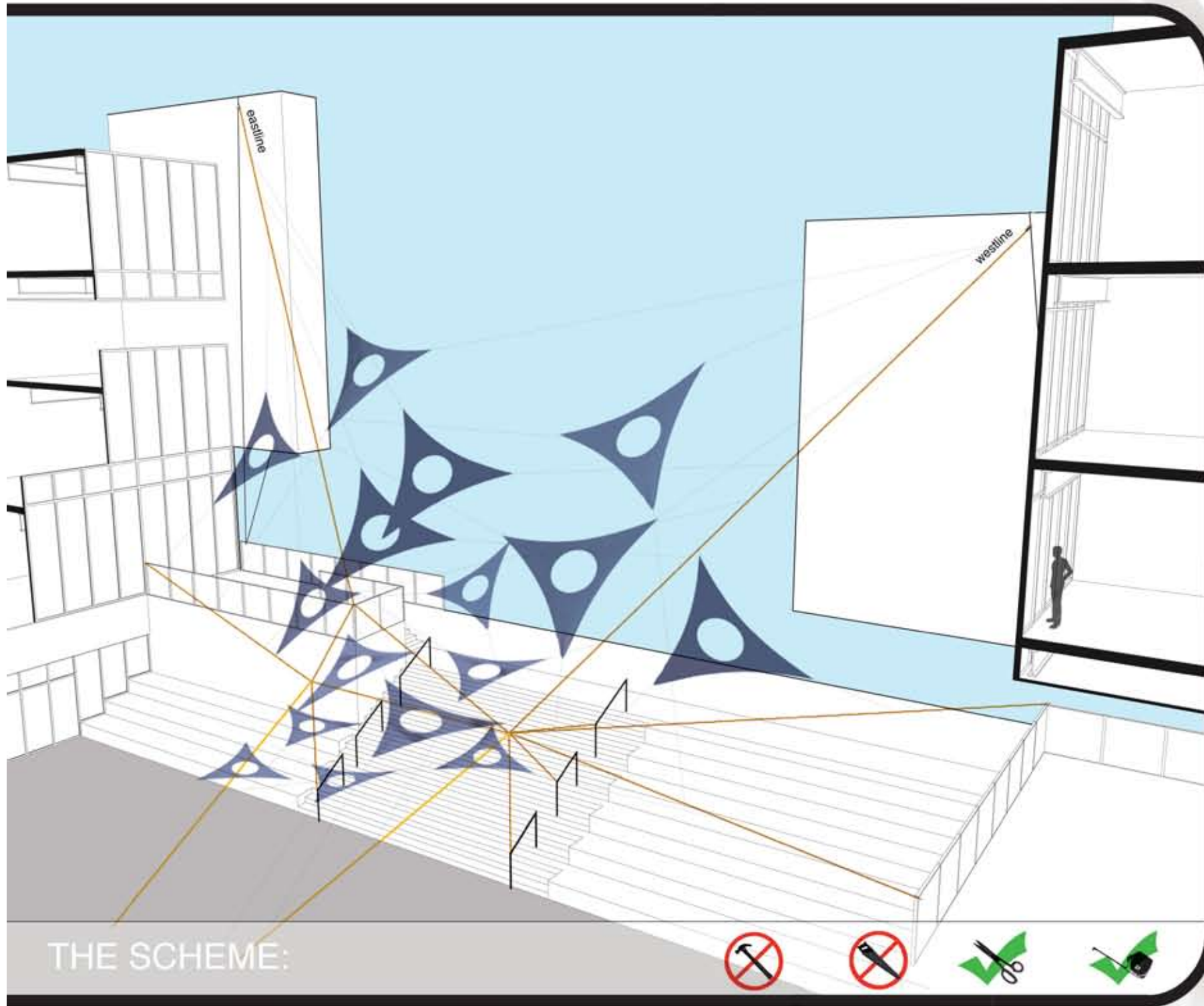
5. SECURE ROPE TO RAILING.



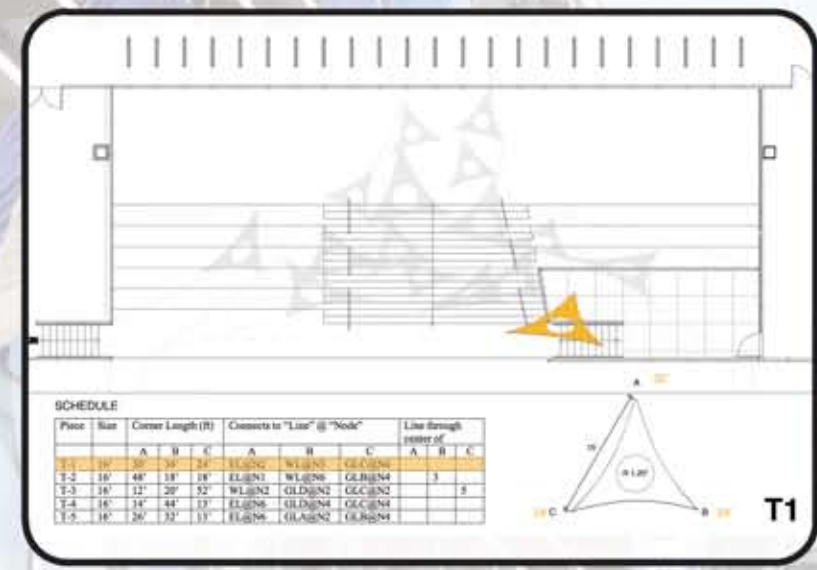
6. REPEAT FOR OPPOSITE END.



A. LATERAL FORCES KEEP PULLEY OFF THE WALL



PREPARATION



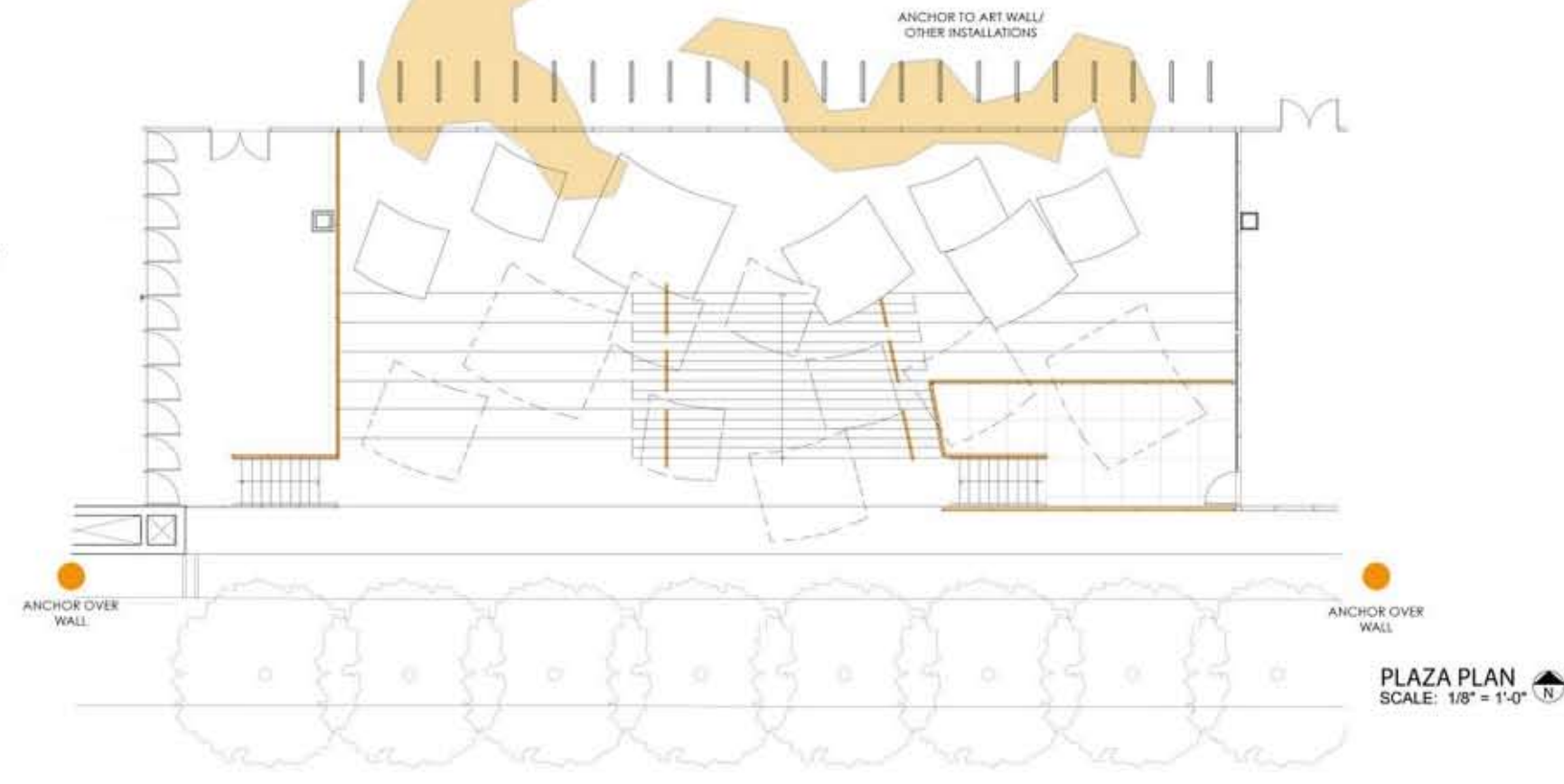
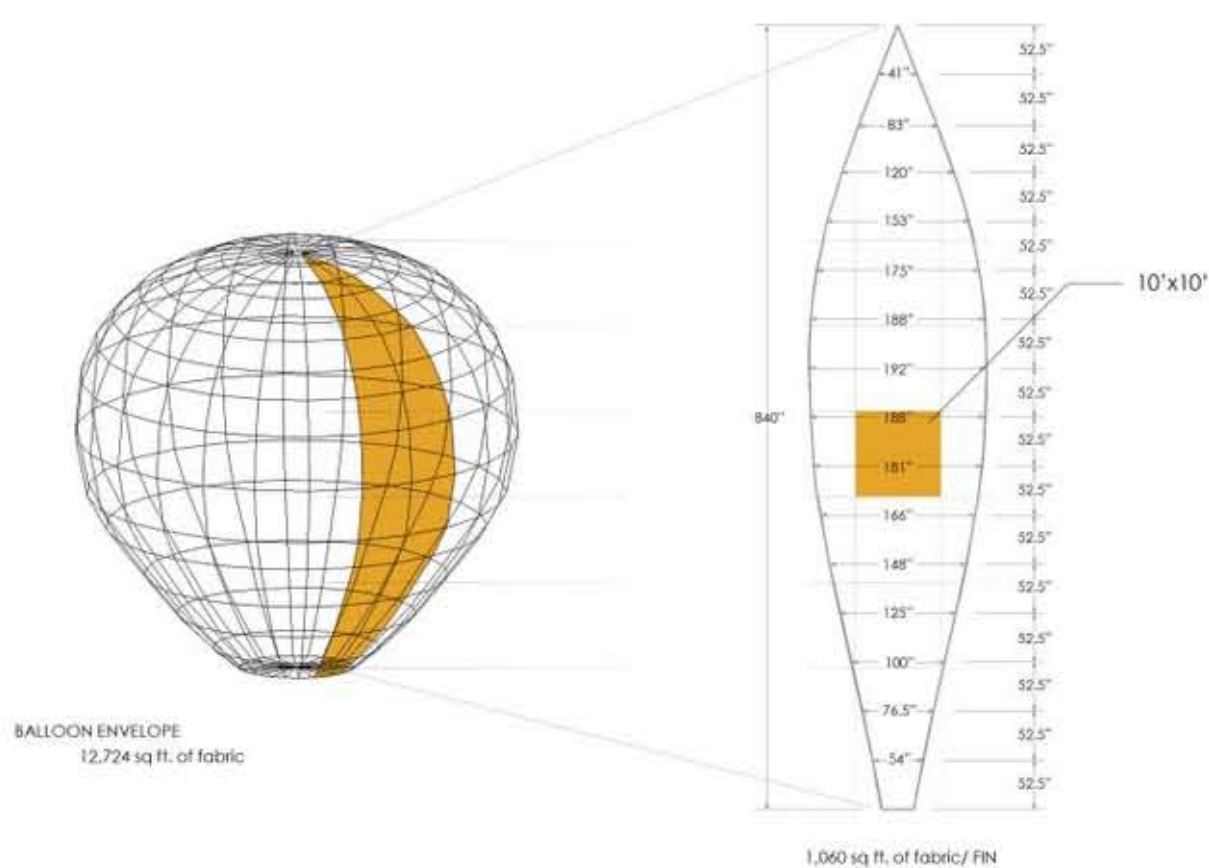
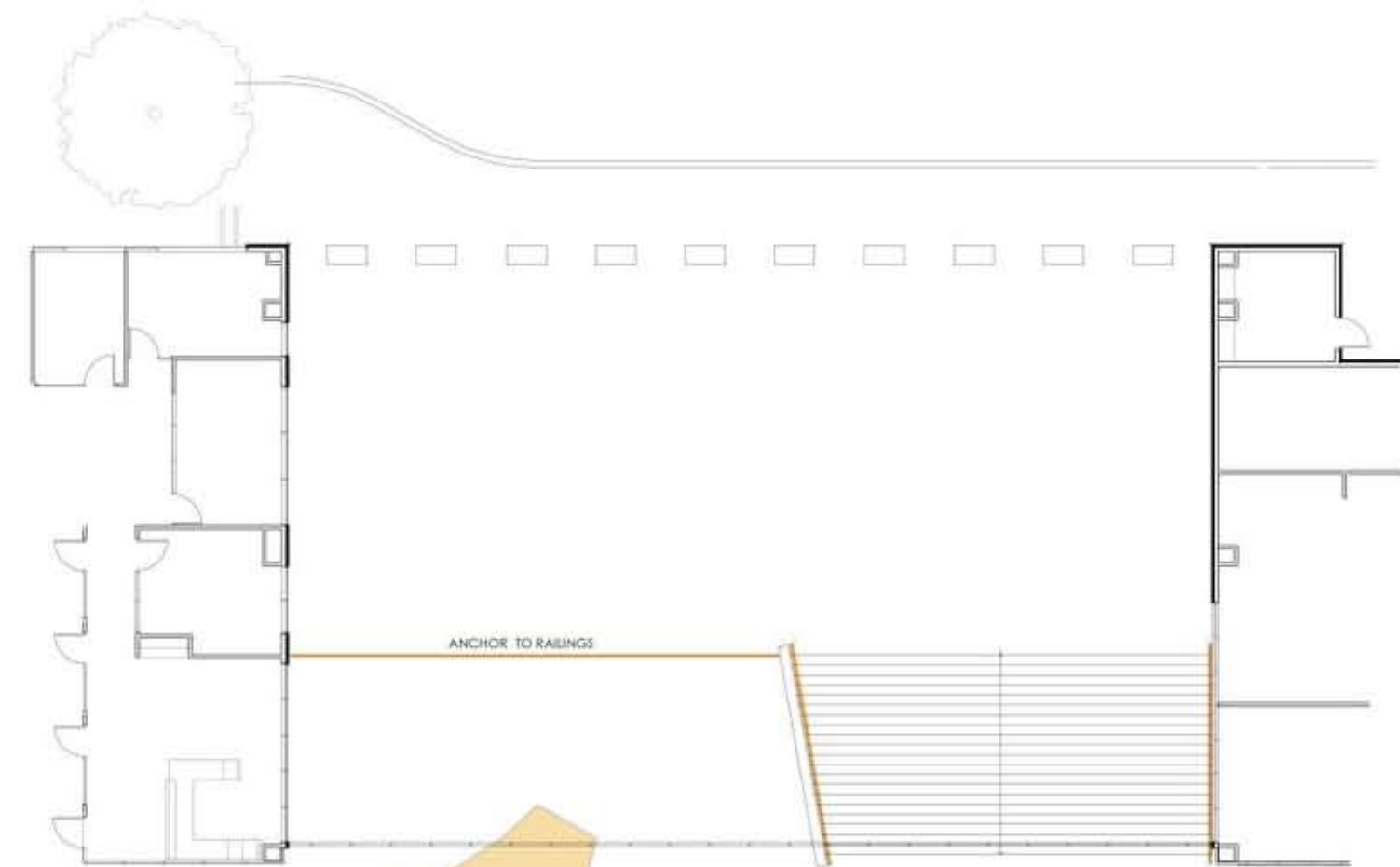
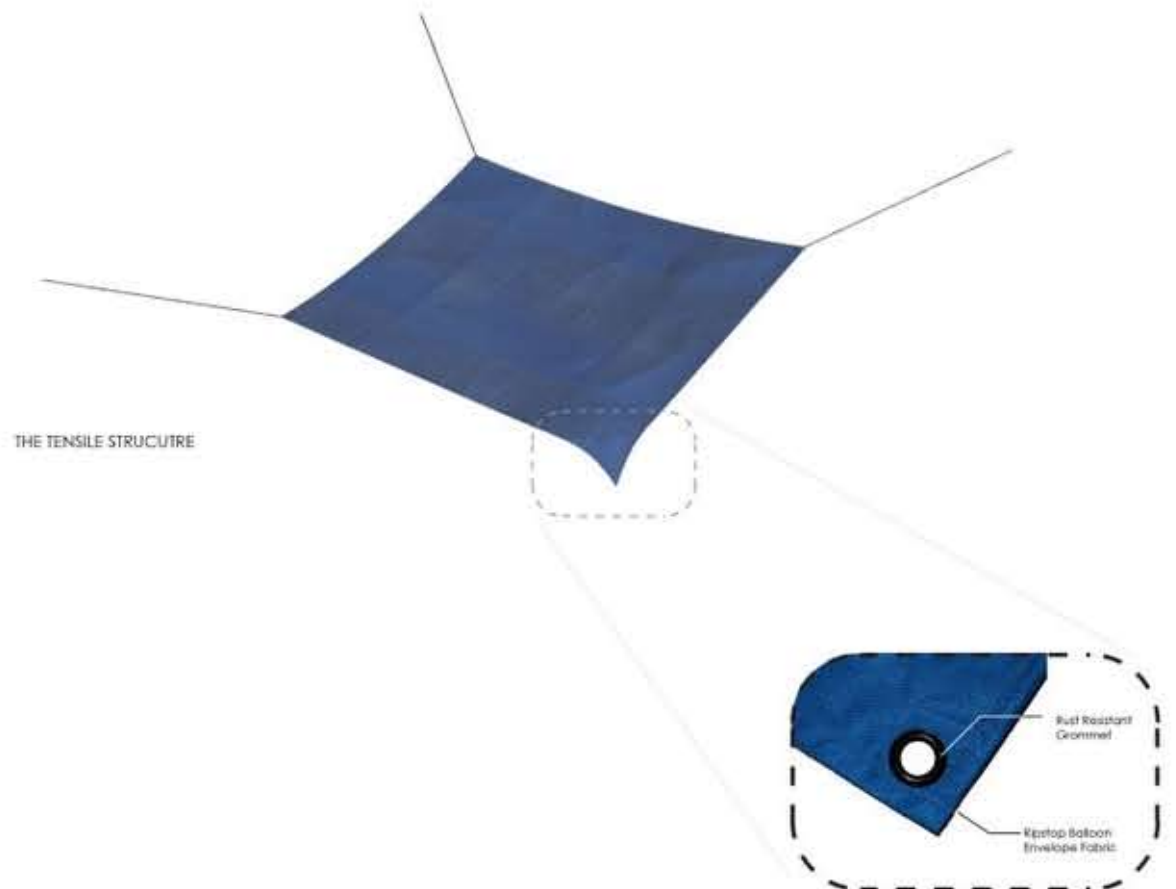
CONSTRUCTION

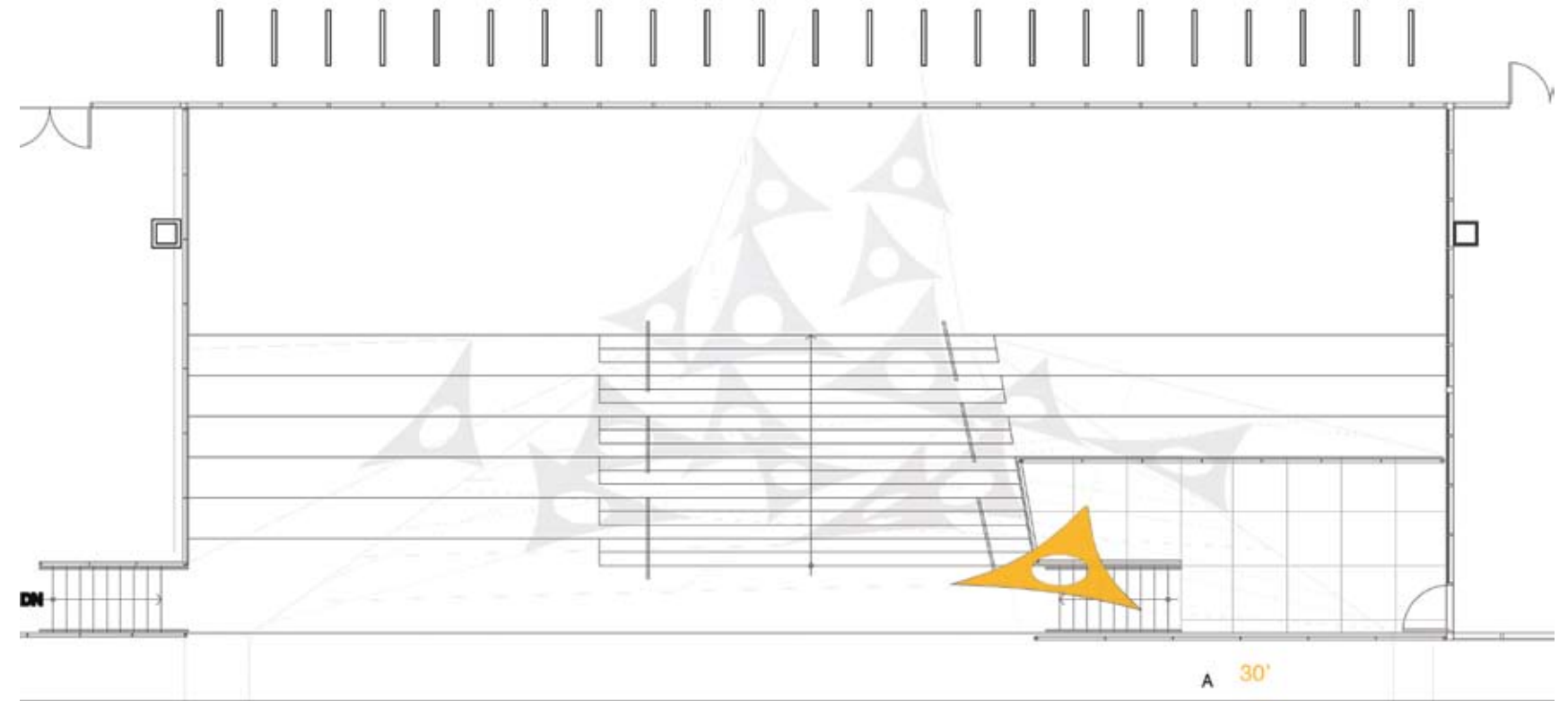
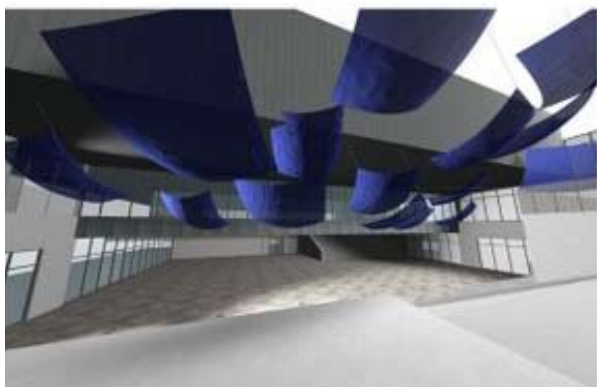
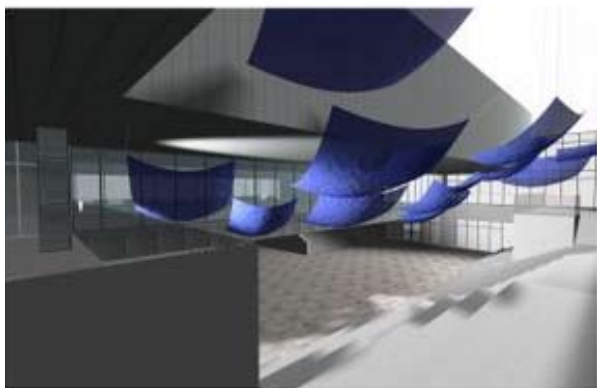
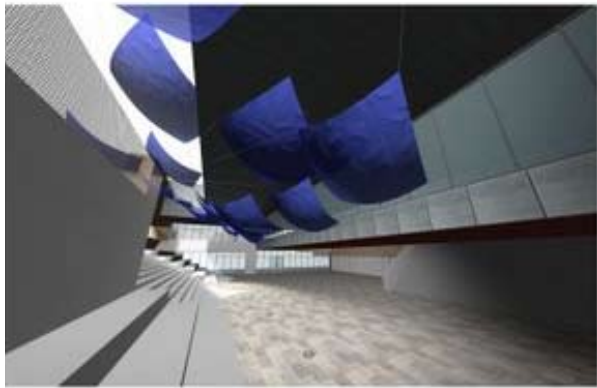
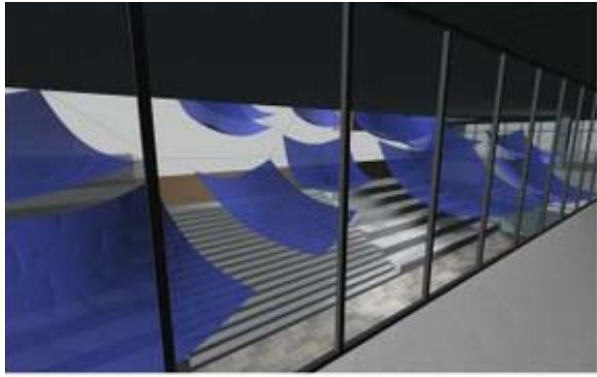


FINAL PRODUCT



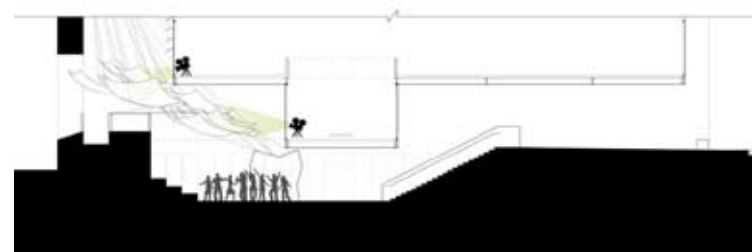
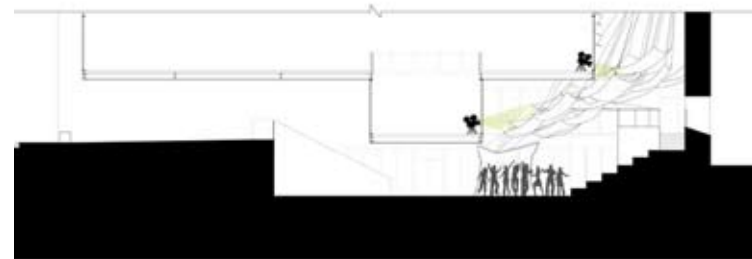
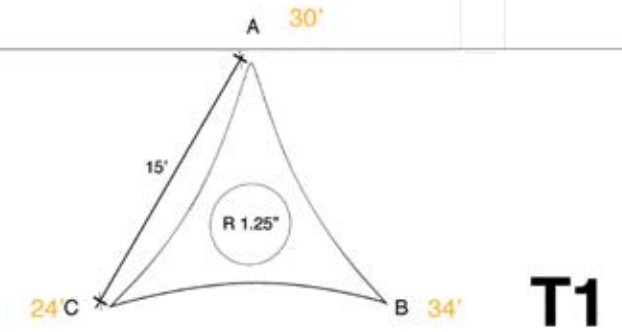
CONNECTIONS



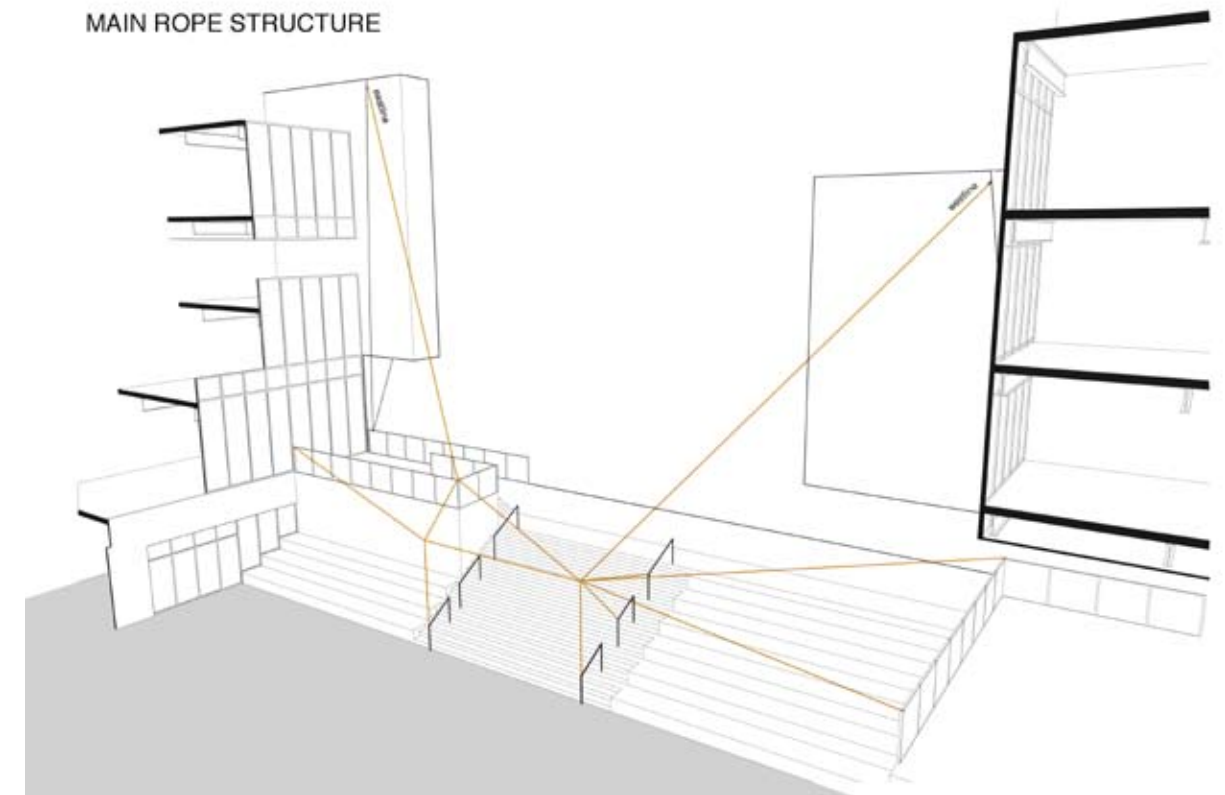


SCHEDULE

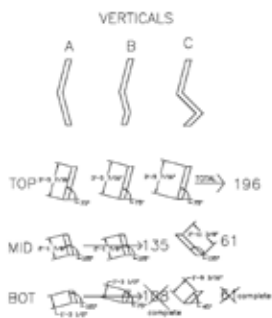
Piece	Size	Corner Length (ft)			Connects to "Line" @ "Node"			Line through center of		
		A	B	C	A	B	C	A	B	C
T-1	16'	30'	34'	24'	EL@N2	WL@N3	GLC@N6			
T-2	16'	48'	18'	18'	EL@N1	WL@N6	GLB@N4	3		
T-3	16'	12'	20'	52'	WL@N2	GLD@N2	GLC@N2		5	
T-4	16'	14'	44'	13'	EL@N6	GLD@N4	GLC@N4			
T-5	16'	26'	32'	13'	EL@N6	GLA@N2	GLB@N4			



MAIN ROPE STRUCTURE

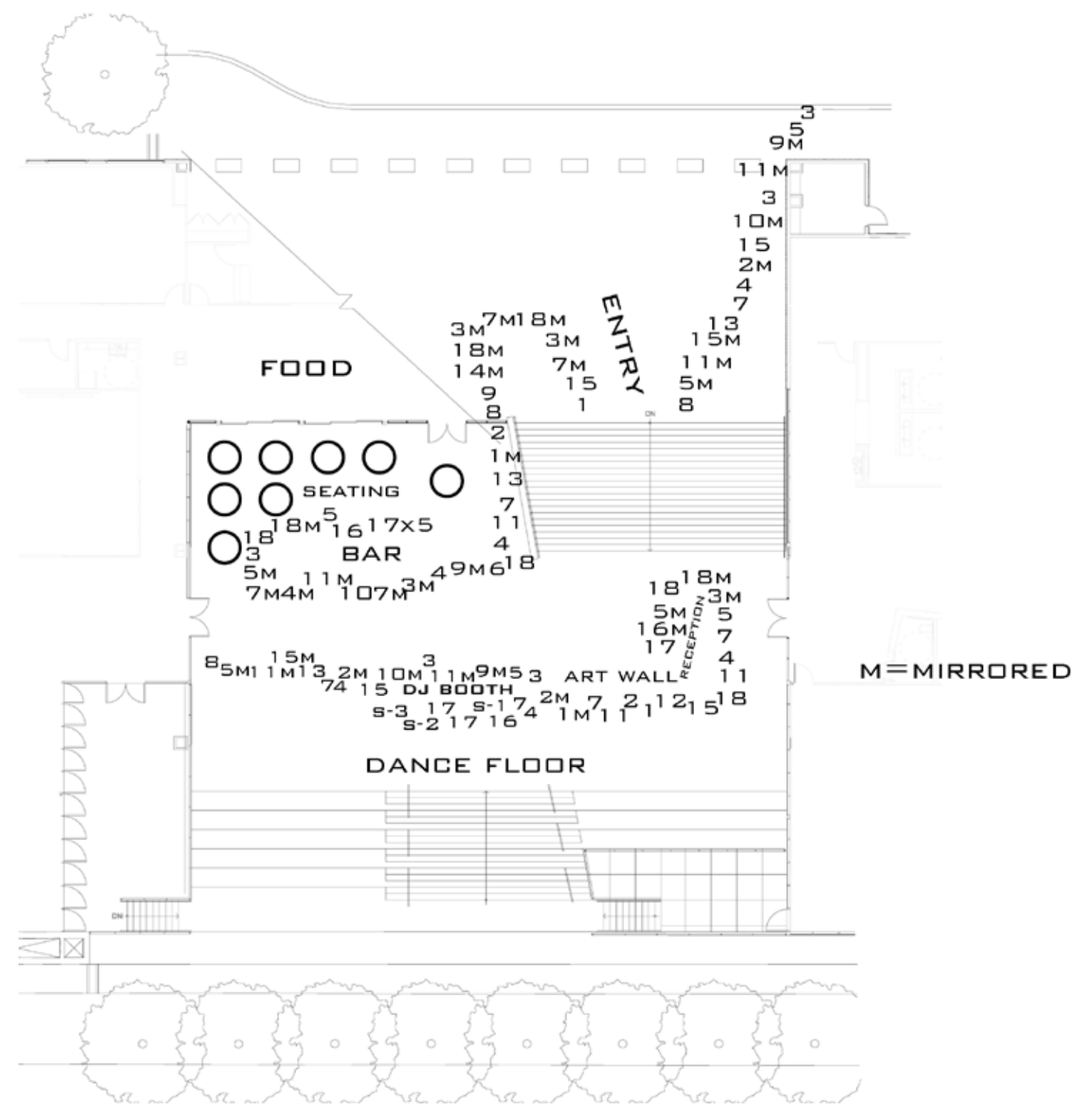
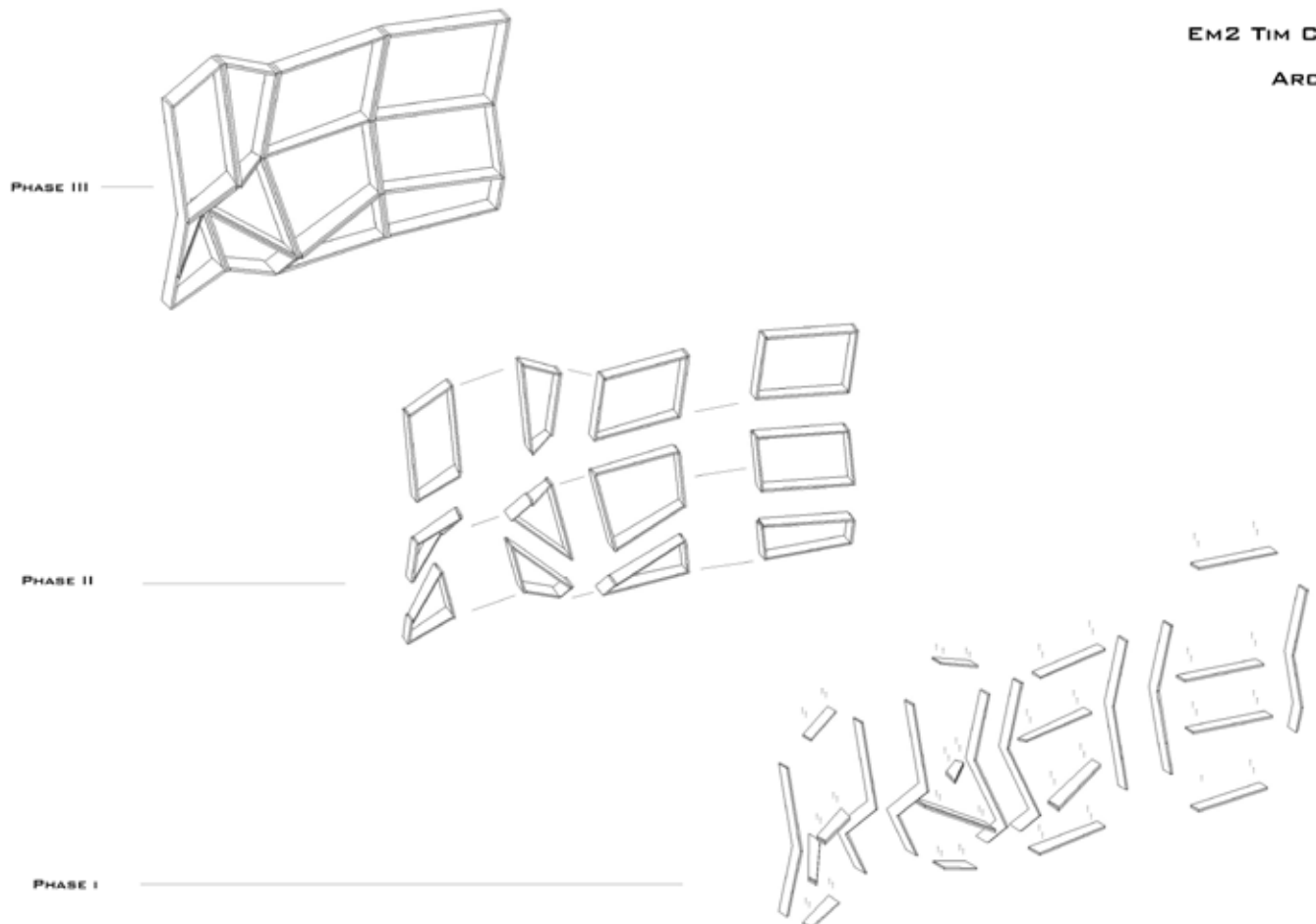


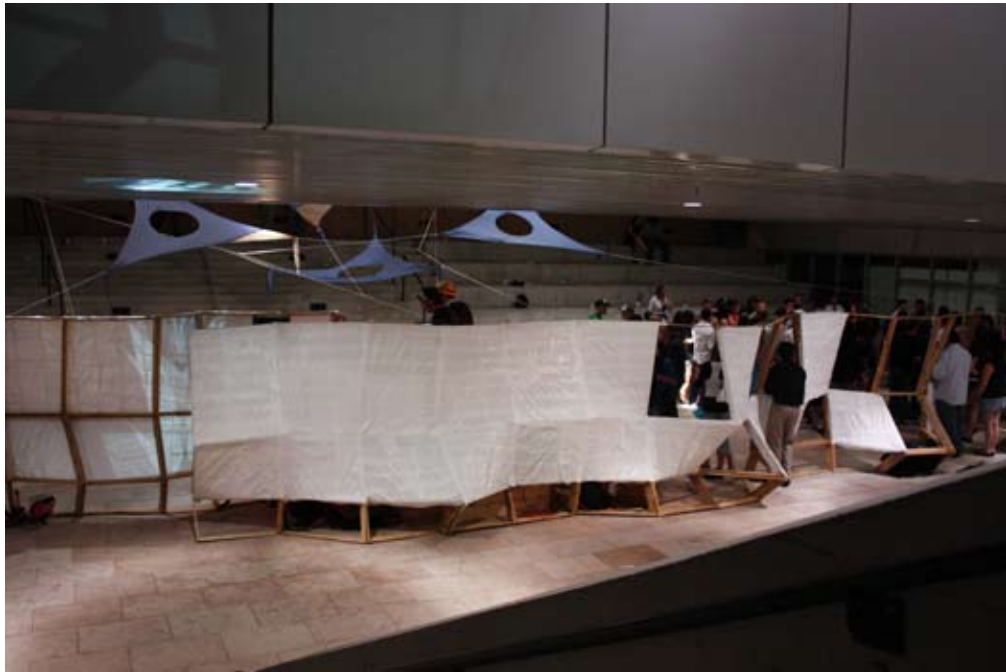
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
TOP																		
↓ 2x																		
↓ 2x																		
BOTTOM																		
TOTAL REGULAR MODULES	2	3	5	6	6	1	6	3	1	1	7	1	3		4	2	8	4
TOTAL MIRRORRED MODULES	2	4	4	1	4		4		3	2	3			1	2	1		4
TOTAL	4	7	9	7	10	1	10	3	4	3	10	1	3	1	6	3	8	8



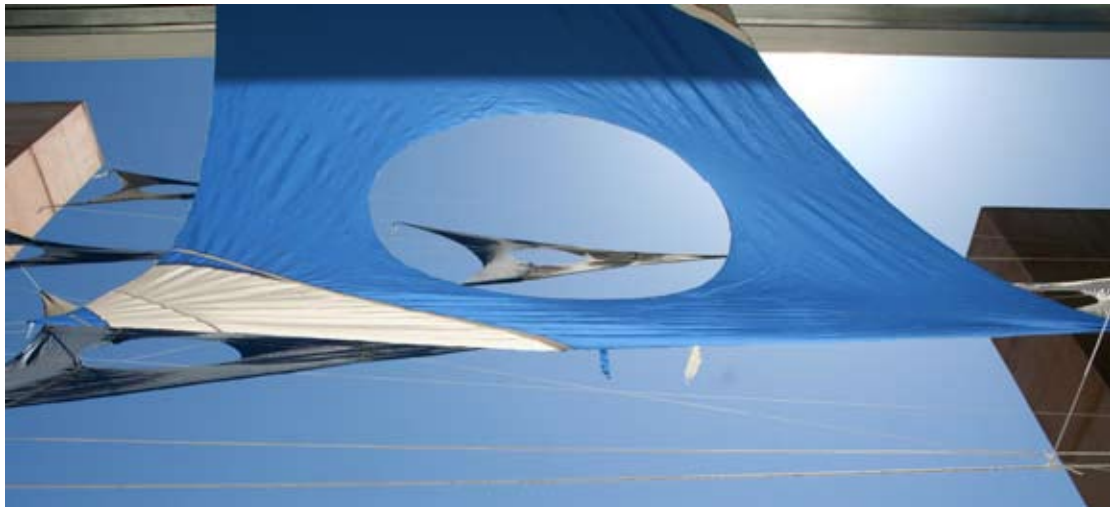
TOTAL WOOD PLANKS NEEDED: ~1,126

PALLET CONSTRUCTION DOCUMENT
EM2 TIM CASTILLO
ARCH 404

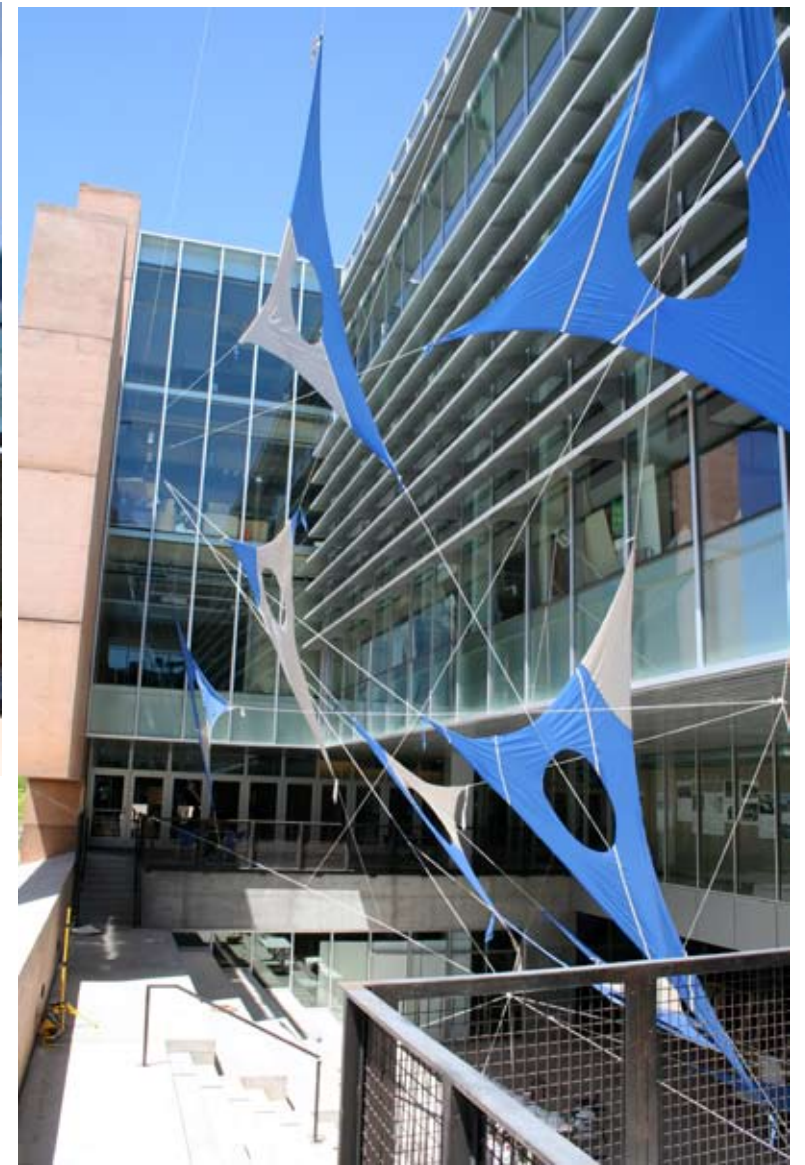


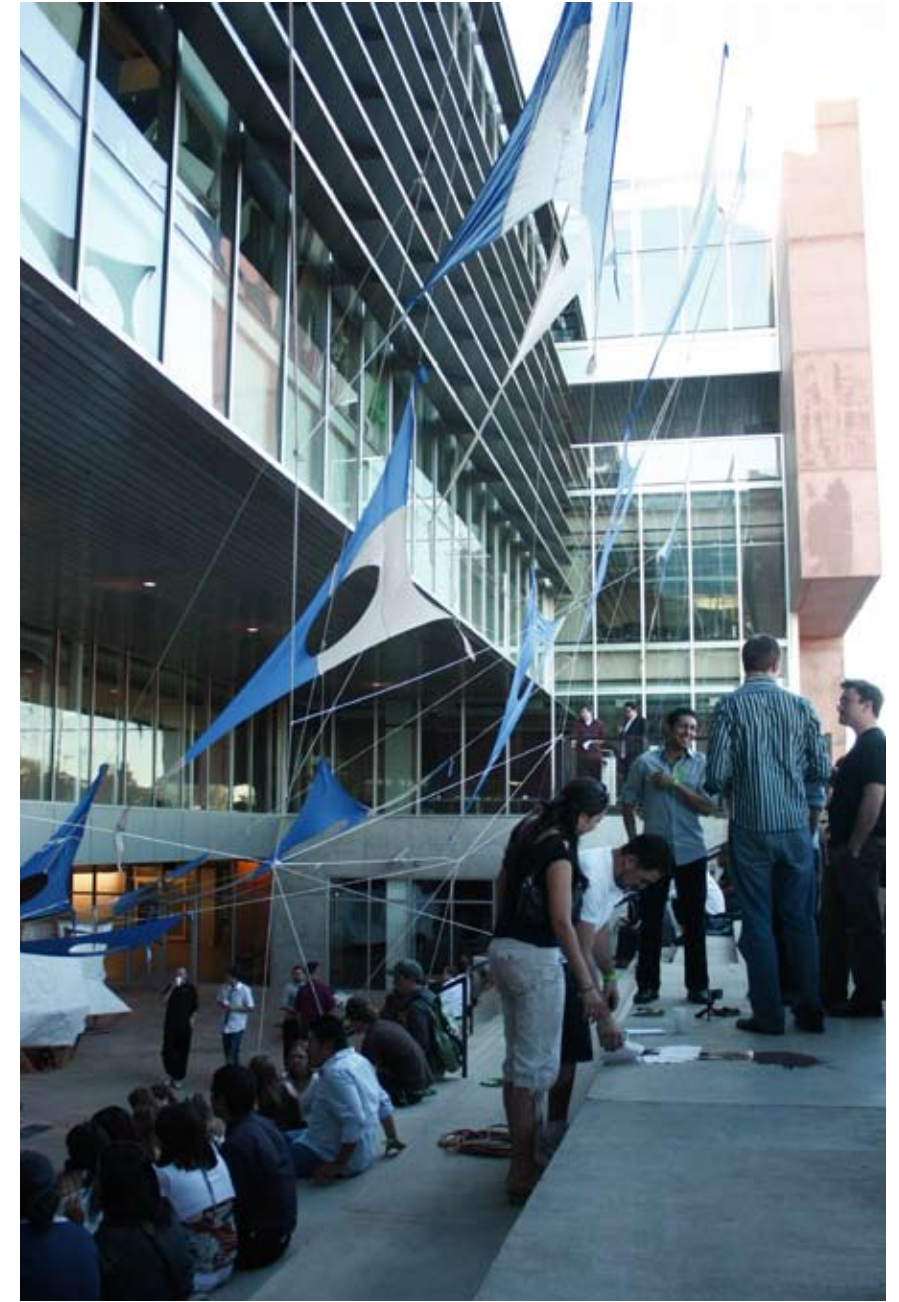


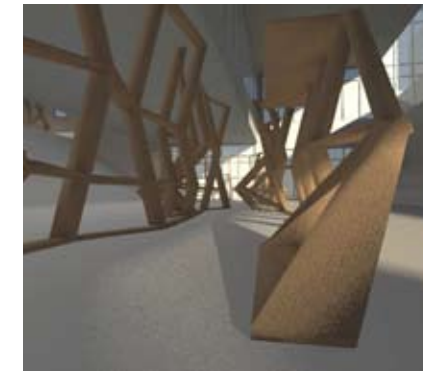
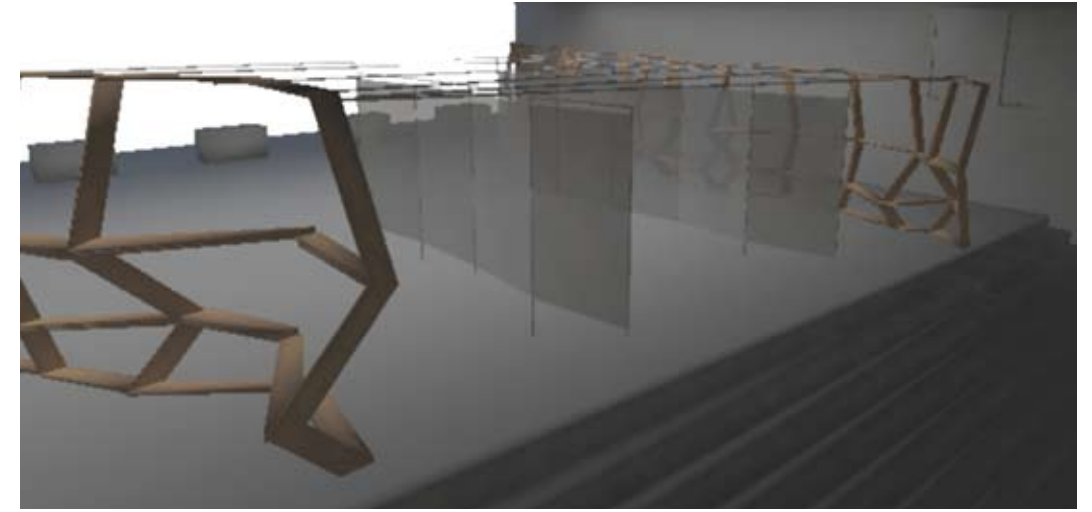
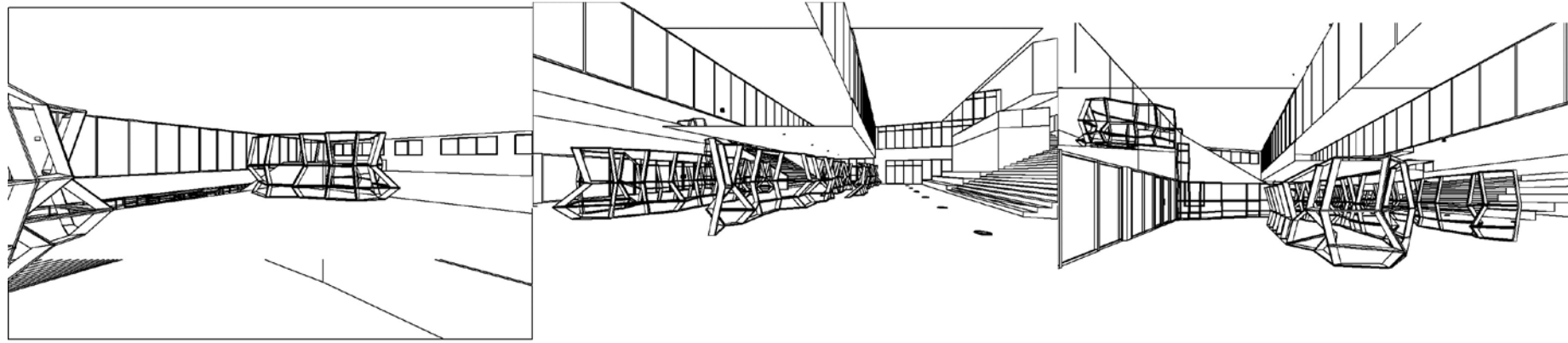
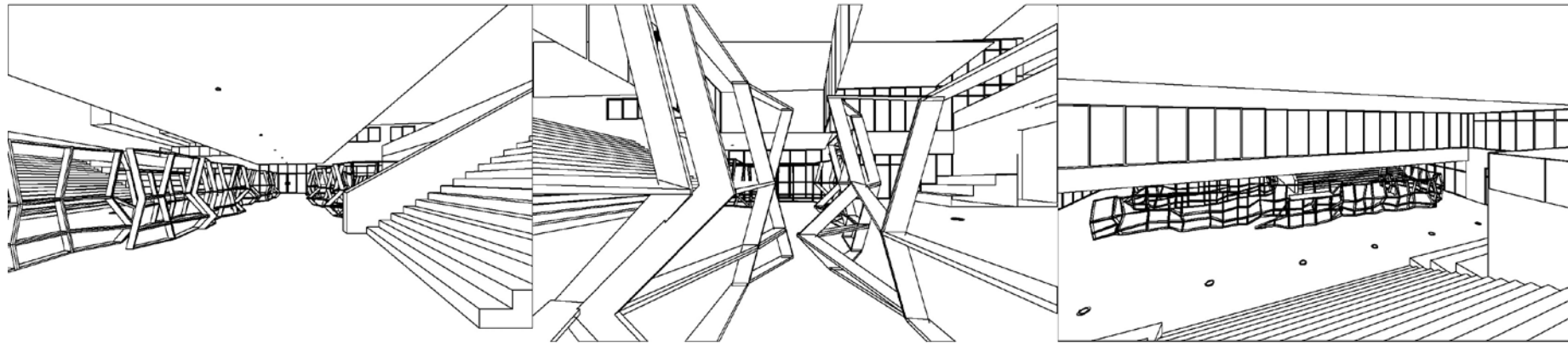
Emerging Mutations 2 by EM2 Team



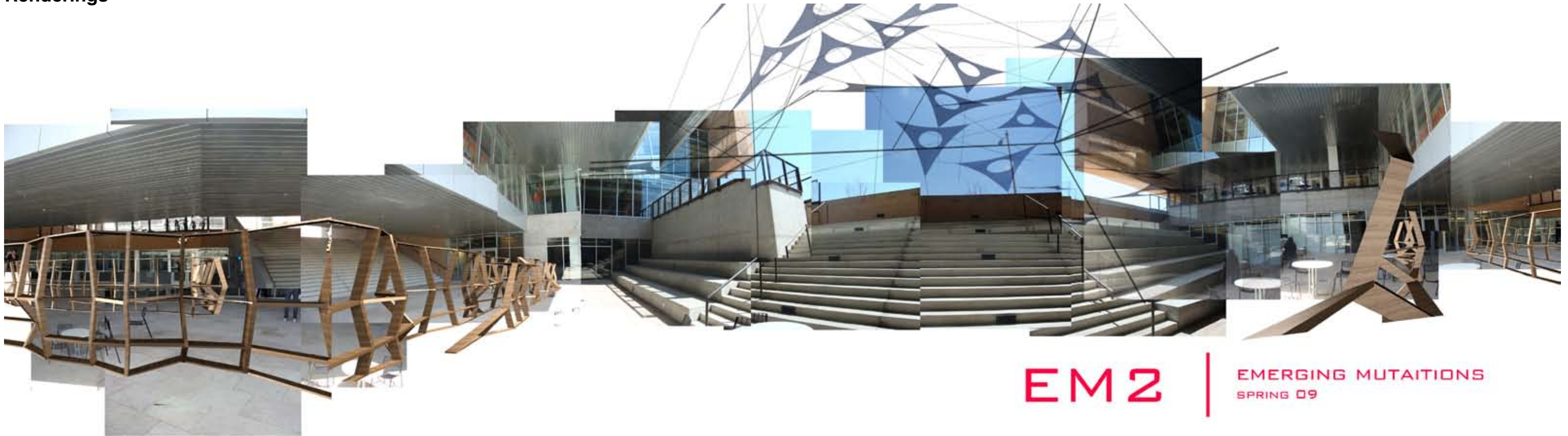
Final Installation







Renderings



EM2

EMERGING MUTATIONS
SPRING 09