

Projects 03 Portfolio
CIAD 5001
Sci-fi Vernaculars
Inside/Out

____Phase 1

intro / group / task

site

design prep

sketchs

mateials exploration

model making

CAD drawings / interactives / health & safty

final structure

1:100 site context

1:50 Inhabitation

____ Phase 2

Research diagram + sketches

design prep

1:20 section / detail with climate influence

plan with climate influence

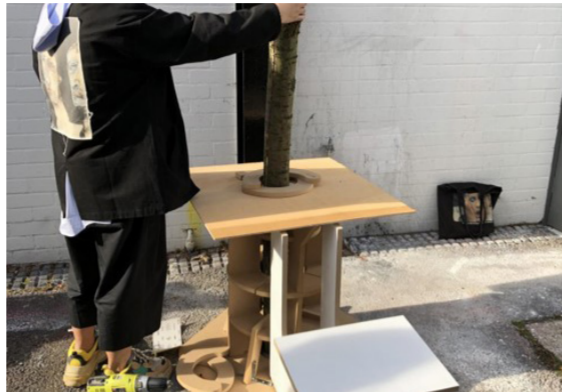
Biodegrading structure

Gabrielle D'Errico

intro group task

Ground / Foundation

to come up with methods of stabilizing the structure without puncturing the ground below



Stability / Columns

working with the columns assuring they are properly secured to joining parts



Canopy / Junctions

general design of overhead canopy that connected together well with sturdiness and style.

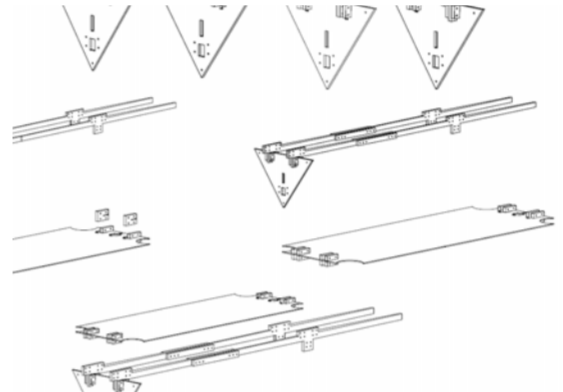
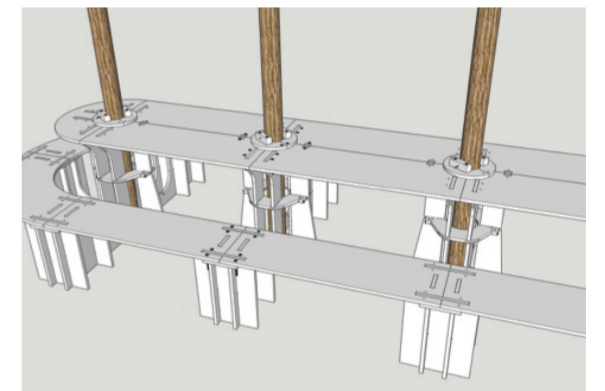
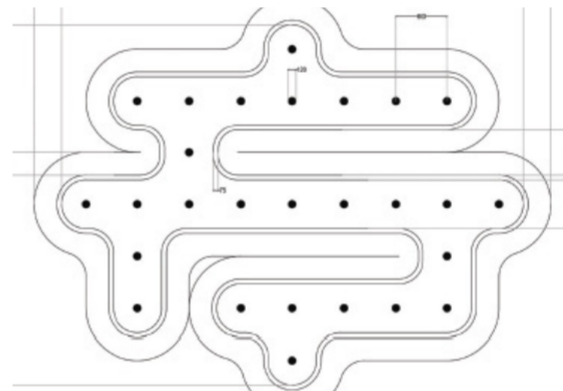


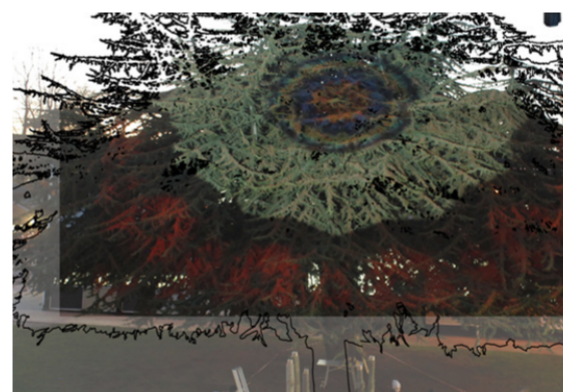
Table / Surface

playing with interaction between people and our structure with the use of table and seating surfaces.



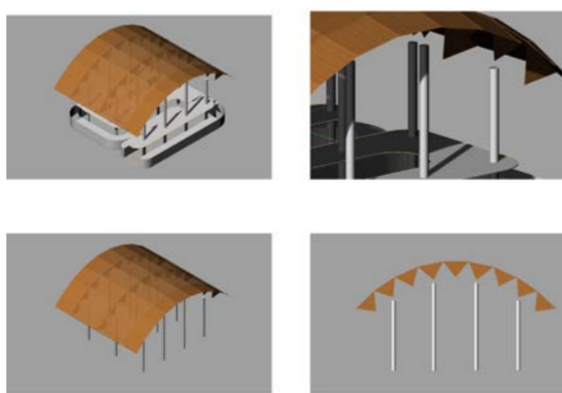
Events management

In charge of management of projections, music, advertisement, organization of end of project event as well as documentation throughout project.



Rhino

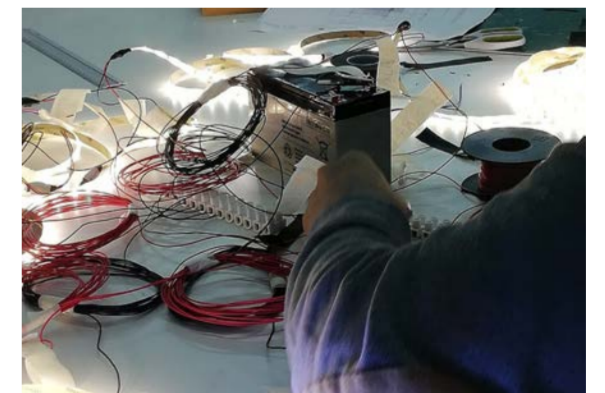
In charge of modeling all iterations in rhino for visualization of overall design before build.



my group and task:

Soft Architecture / Interactive

create an installation using plastic to elicit the effect of sci-fi in the vernacular pavilion as well as integrate an interactive element to create a responsive design.



our roles in our group:

Gabrielle D'Errico: Document, project package, model maker

Emma Quetier: CAD drawer, model maker

Lauren Mauger: Health & Safety, Model maker

Shreya Prakash: Model maker

Linghui Xu: Model maker

Ziyue Huang: Model maker

Chun-an Tsai: Interactives

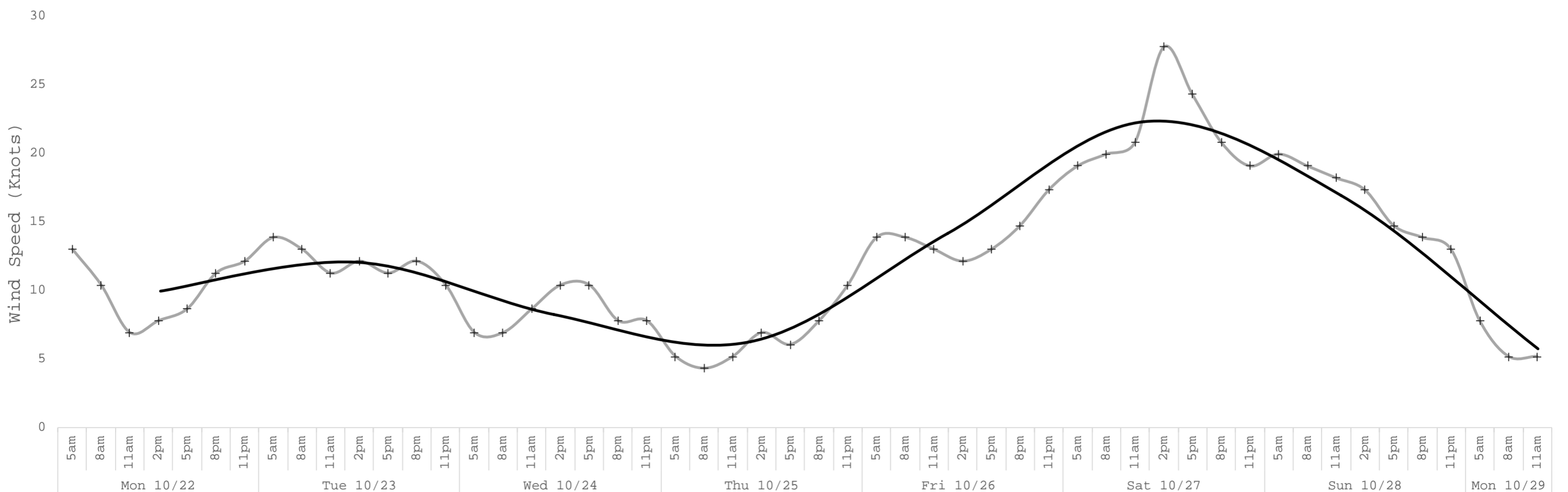
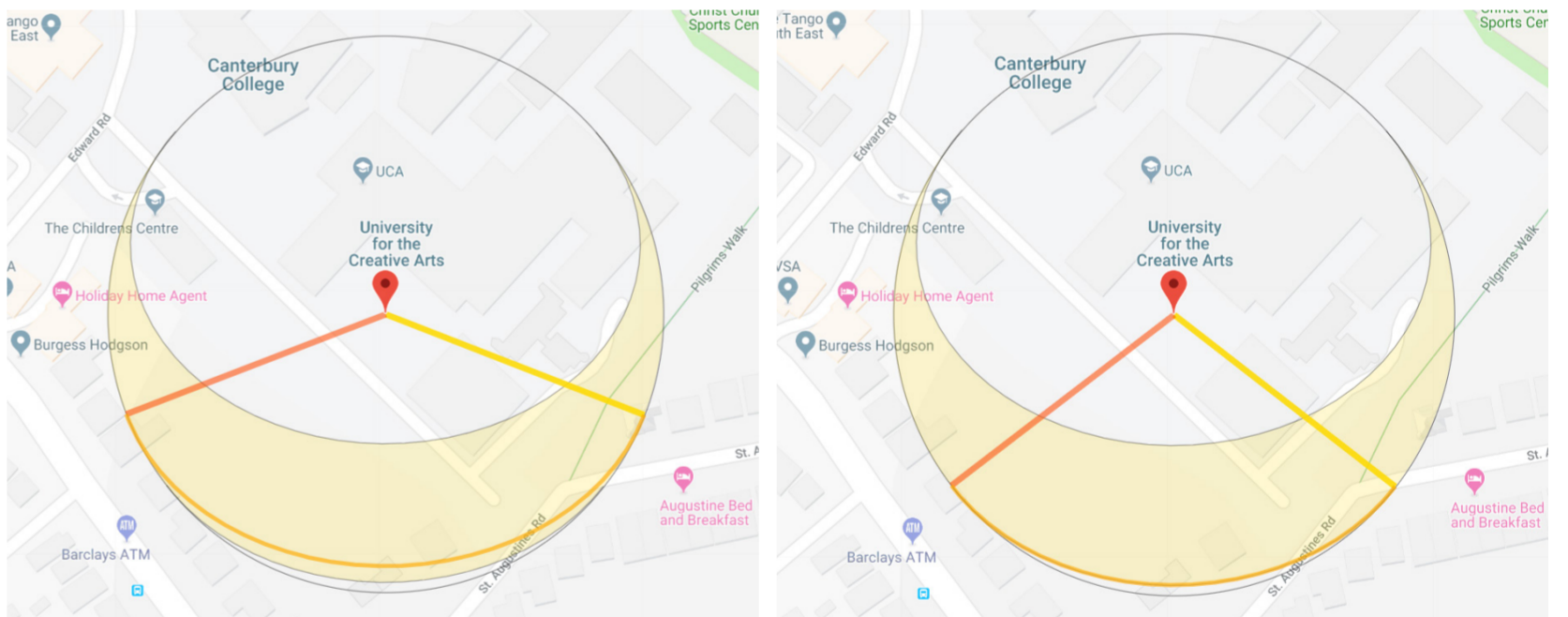
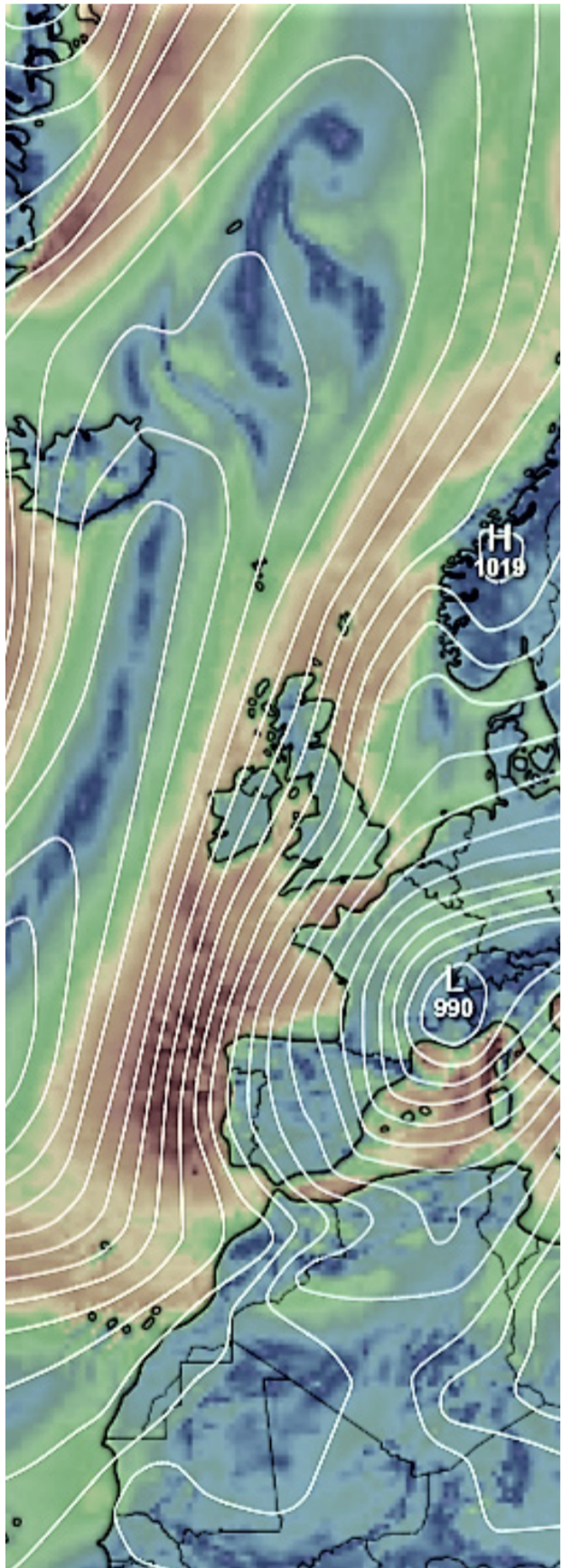
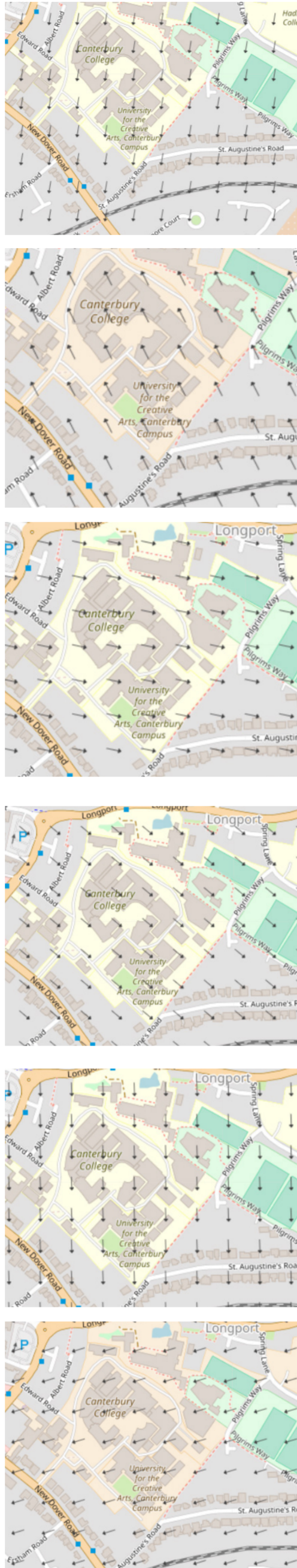
Tianyi Zhou: Interactives

site

WIND STUDY direction of wind throughout week according to windtracker.com

To start off, I felt it was important to be aware of the context of our site. In the middle of the lush UCA courtyard between one and two storey buildings holds many students during lunch breaks and sees the arrival and departure of students at all times of the day. This busy and varying foot activity is also reflected in the most noticeable climate condition on site- wind.

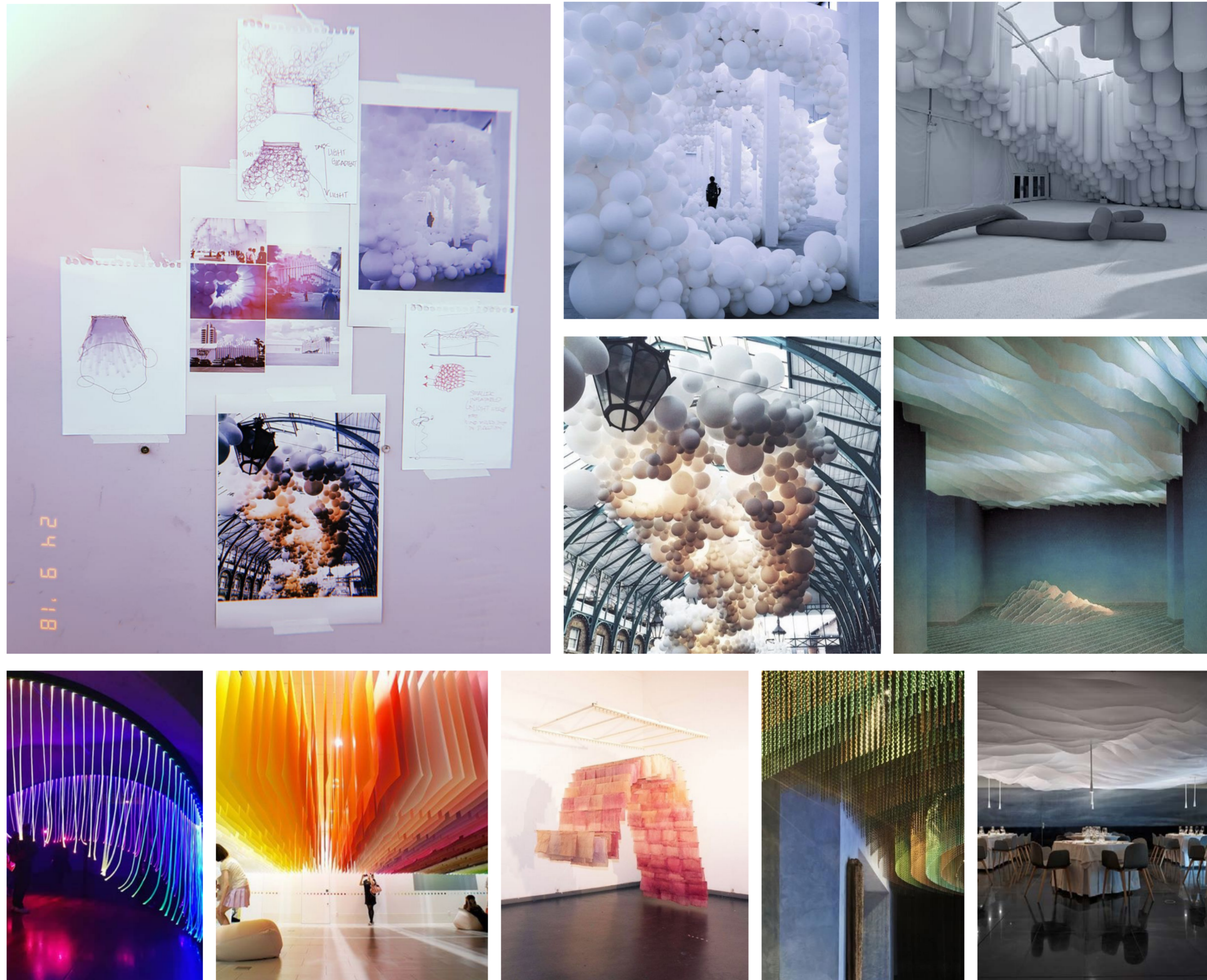
MON 10/22
TUE 10/23
WED 10/24
FRI 10/26
SAT 10/27
SUN 10/28



Variation in Wind Speeds Throughout the Week

design prep

precedents

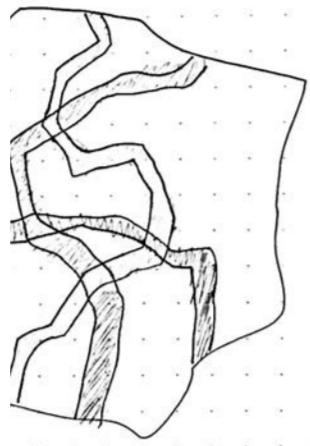
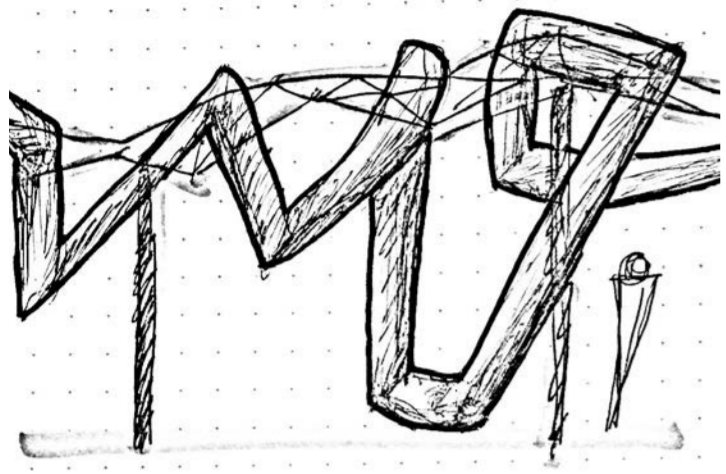


materials budgeting spreadsheet (that we never ended using)

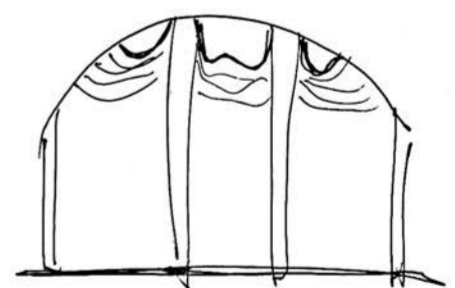
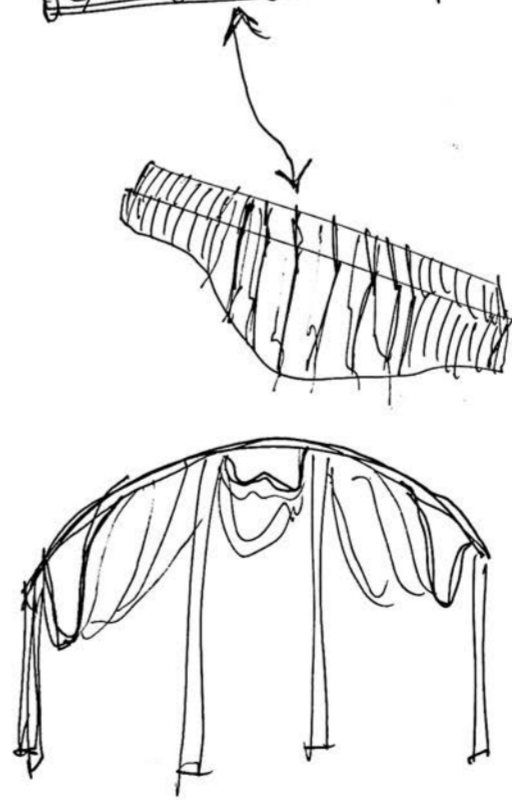
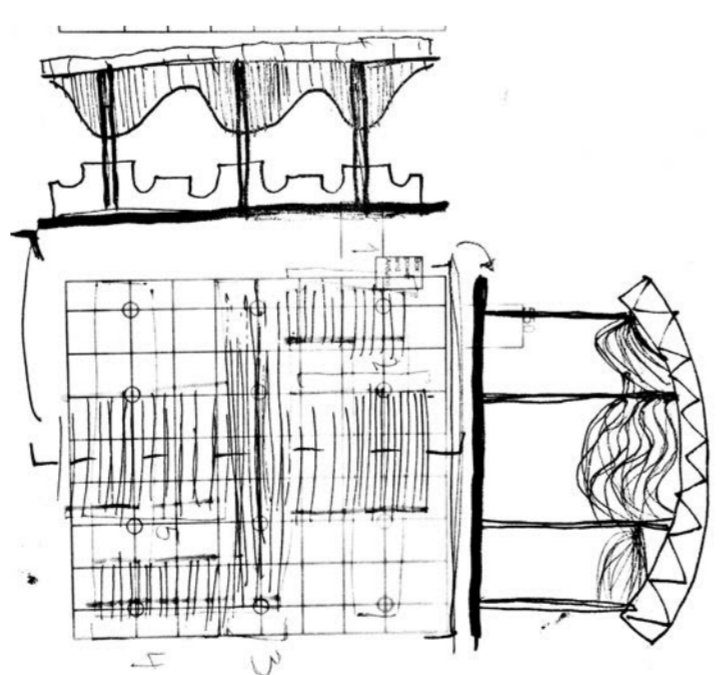
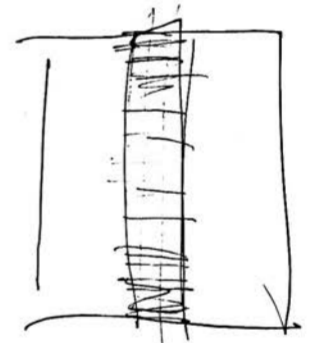
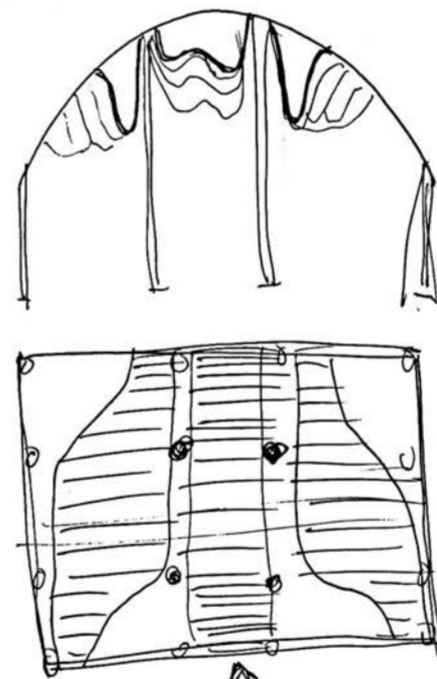
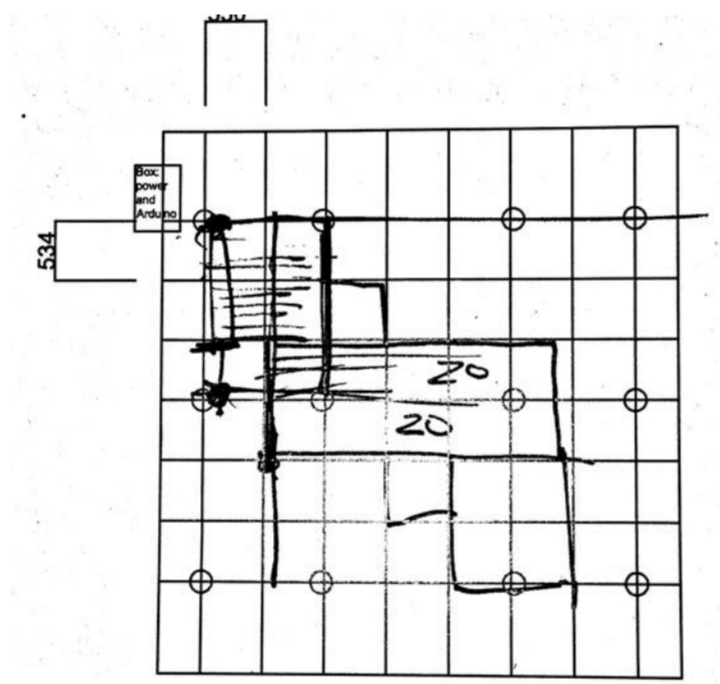
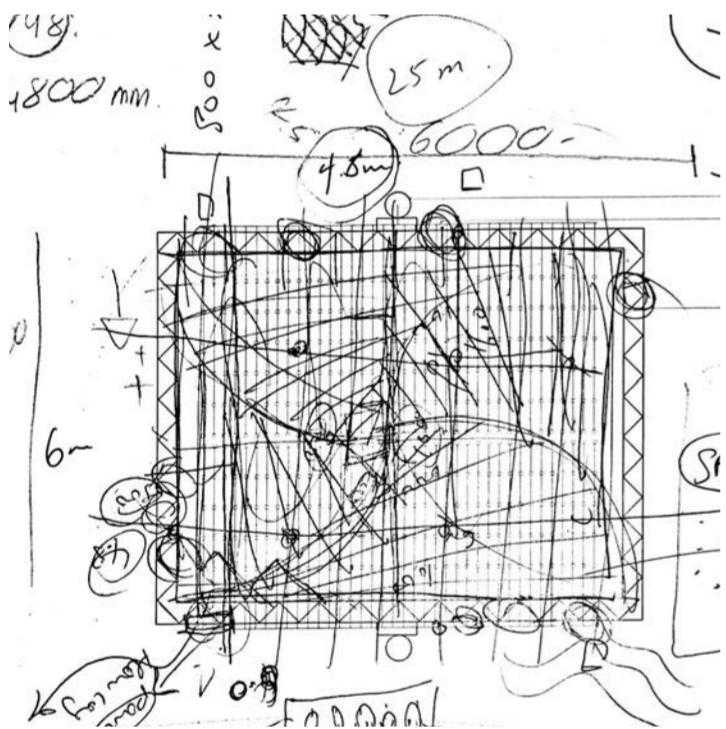
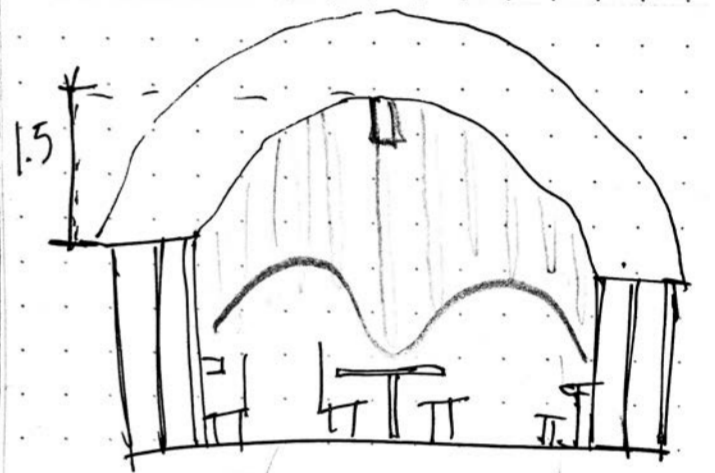
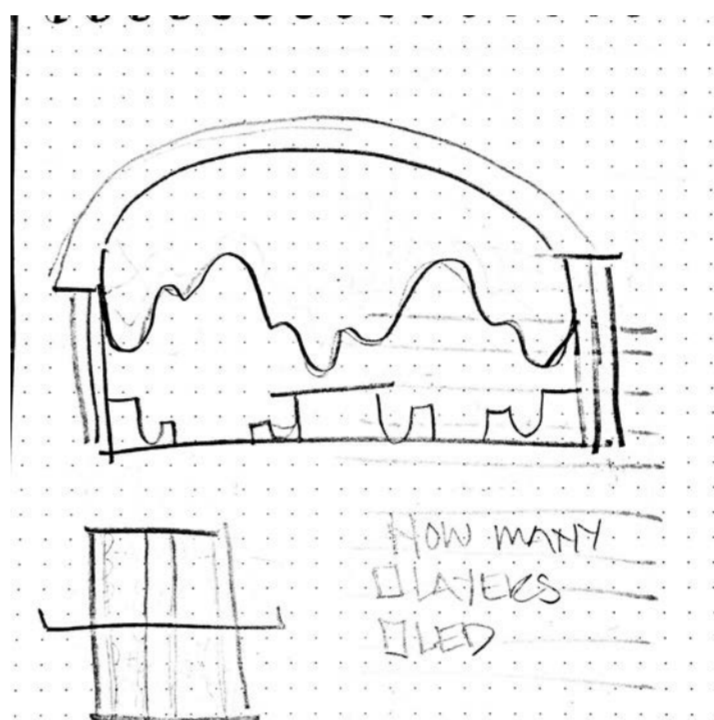
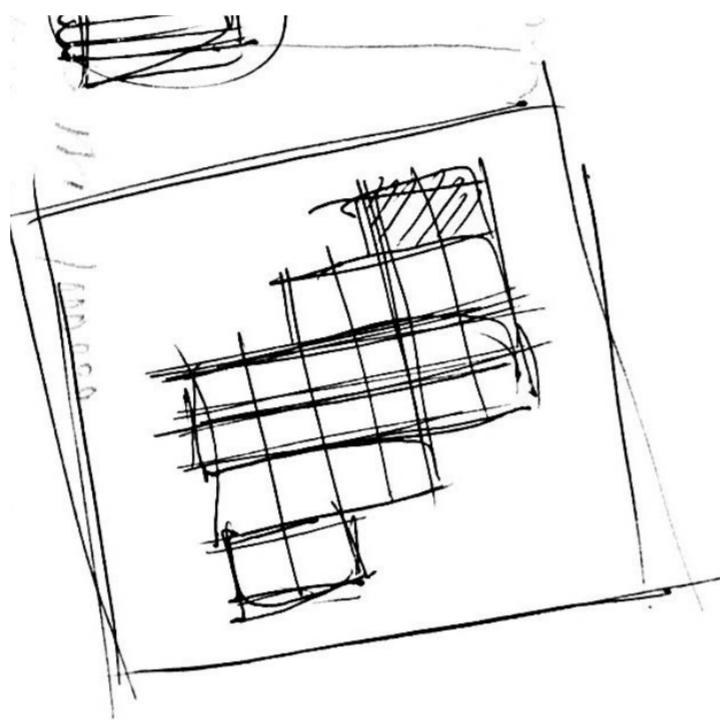
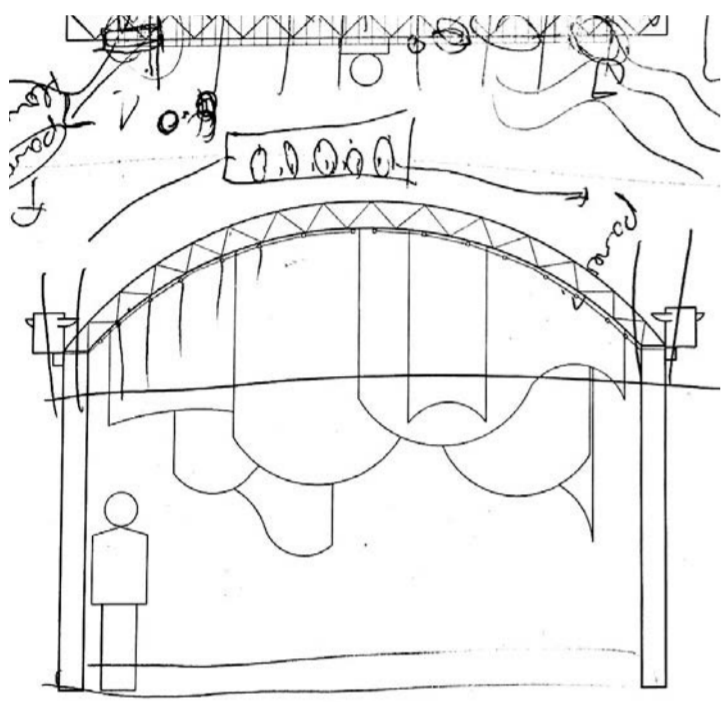
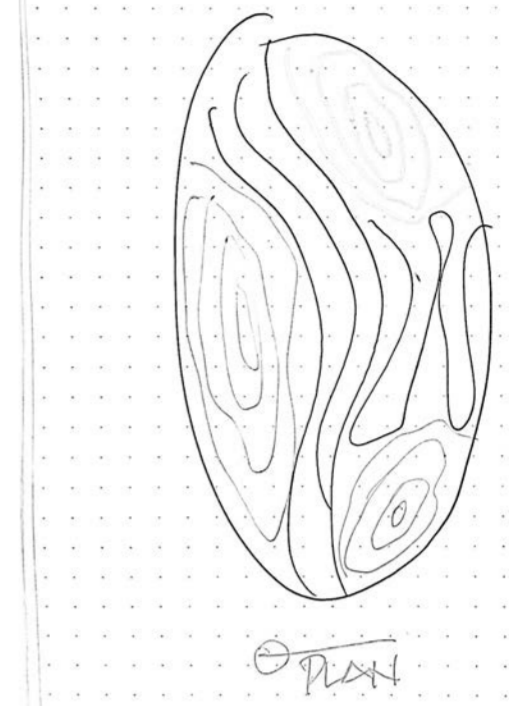
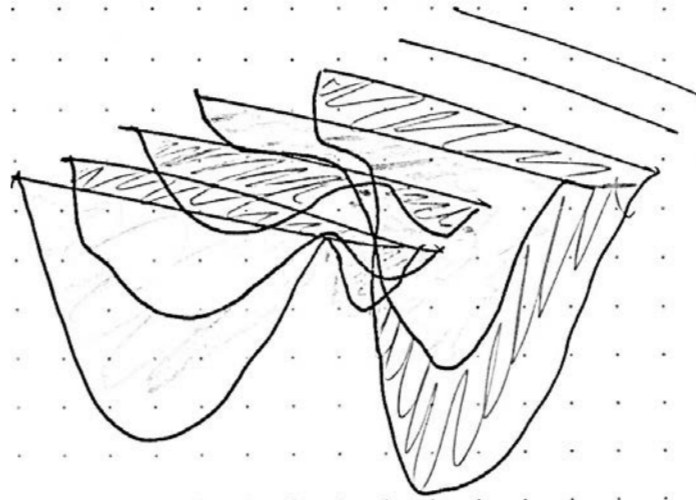
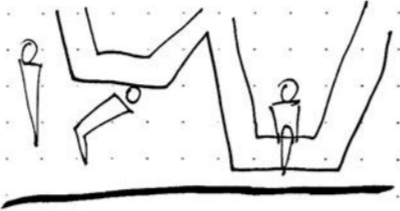
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ANSIO 3401 Polythene Dust Sheet Roll 2m x 50m	6.89	Friday, 28 Sep.		https://www.amazon.co.uk/ANSIO-
Polyshield 10m of White/Black / White Hydroponic	16.66	29 Sep. - 2 Oct		https://www.amazon.co.uk/Polysh
Big Balloon 36 Inch Giant Latex Balloon Large	11.69	Friday, 28 Sep.		https://www.amazon.co.uk/Balloc
WHITE PVC VINYL INFLATABLES PLASTIC SHEETING F	9.99	28 Sep. - 1 Oct		https://www.amazon.co.uk/RESIST
Simplefirst Emergency Thermal Blankets, Survi	0.89	29 Sep. - 3 Oct		https://www.amazon.co.uk/Simple
Luxury Home Decor White 90" Width Cabric Cott	50 /meter	Monday, 1 Oct		https://www.amazon.co.uk/qp/B01
60" wide Calico Fabric - per metre	2.31	Saturday, 29 Sep		https://www.amazon.co.uk/60-wid
Mirror Foil High Shine Liquid Wet Look Stretch	7.99	Saturday, 29 Sep		https://www.amazon.co.uk/Stunni
Korbond 20 m Hemming Web	3	Saturday, 29 Sep.		https://www.amazon.co.uk/Korbond
2 Packs 0.4 mm Clear Nylon Wire Non-stretchy	5.99	tomorrow, 28 Sep		https://www.amazon.co.uk/Non-st
CONNEX DY2701383 2mm x 30m Galvanised Wire Ro	12.09	tomorrow, 28 Sep		https://www.amazon.co.uk/CONNEX
White 4oz Waterproof Cover Fabric (Per Metre)	£4.95	4 - 6 Oct.		https://www.amazon.co.uk/White-

sketch

To filter through ideas, and visualize my design I like to do quick little sketches. These are a collection of sketches done by me and my group trying to communicate our ideas to each other.



- LIGHT UP LED TUBES
- AT DIFFERENT LEVELS
- ALLOWING FOR DIFFERENT INTERACTION



material exploration

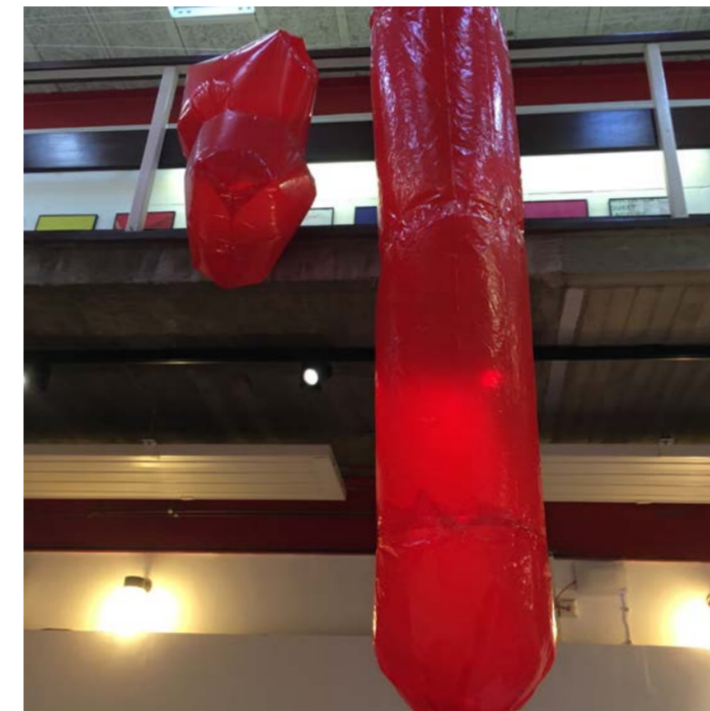
plastic bags + an air blower



inflation and testing the boundaries



big long tubes of air



multiple smaller elements



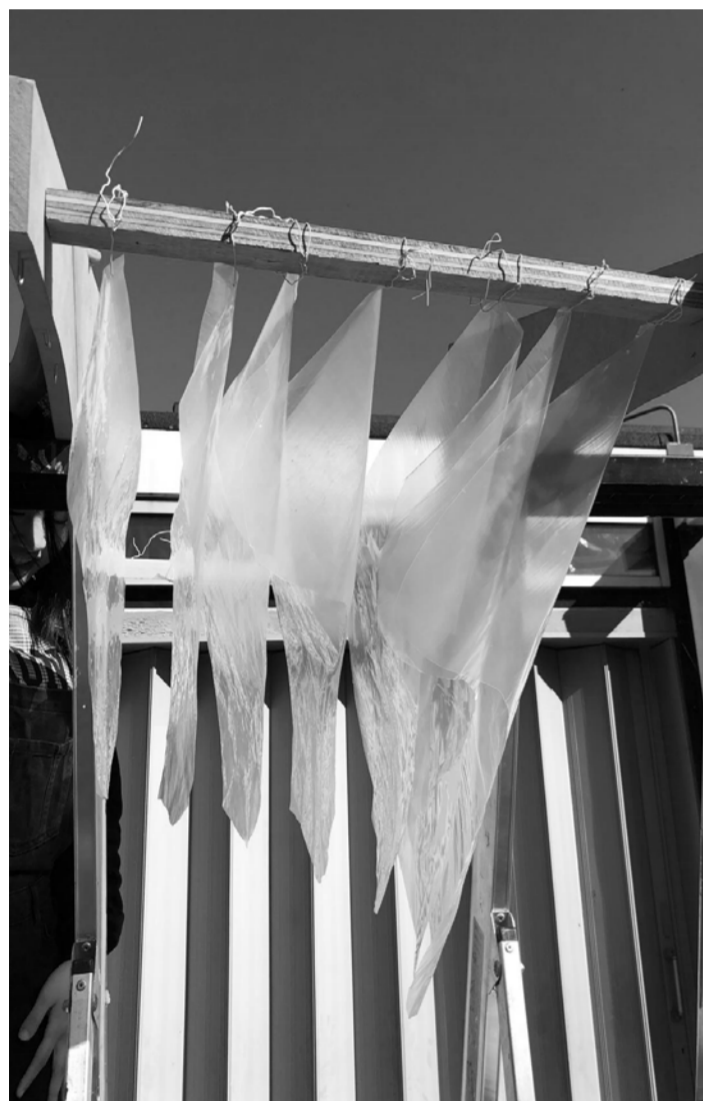
testing different materials



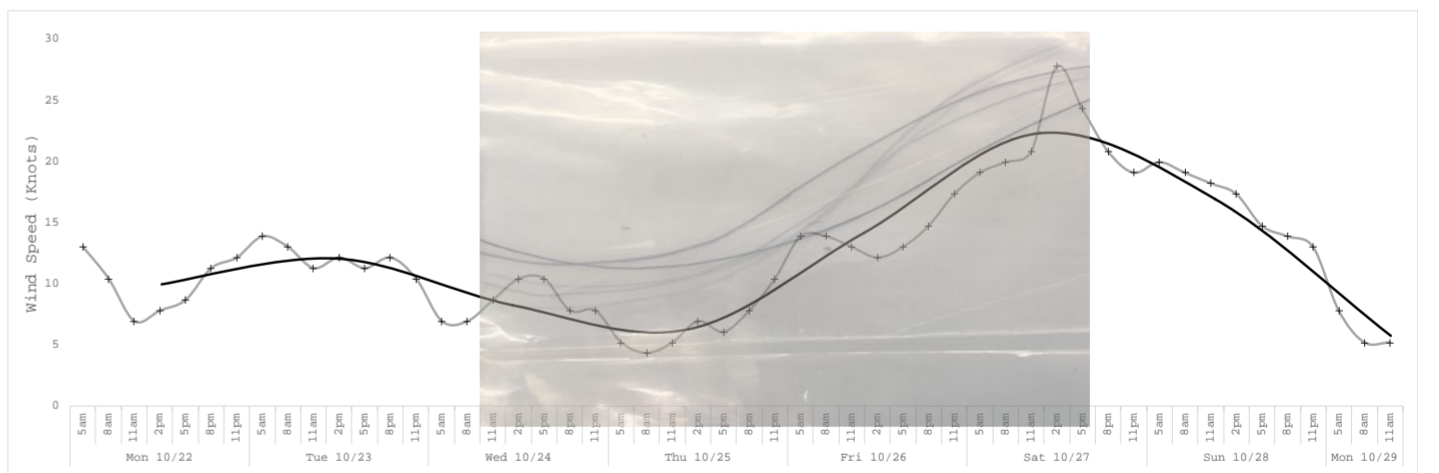
and after all that we decided we didn't want to inflate things

model making

We then went on to make several iterations of models to test everything from density of the plastic sheets, fascinating to the structure, testing plastic lengths considering interaction with wind, spacing between plastic sheets, and overall form.

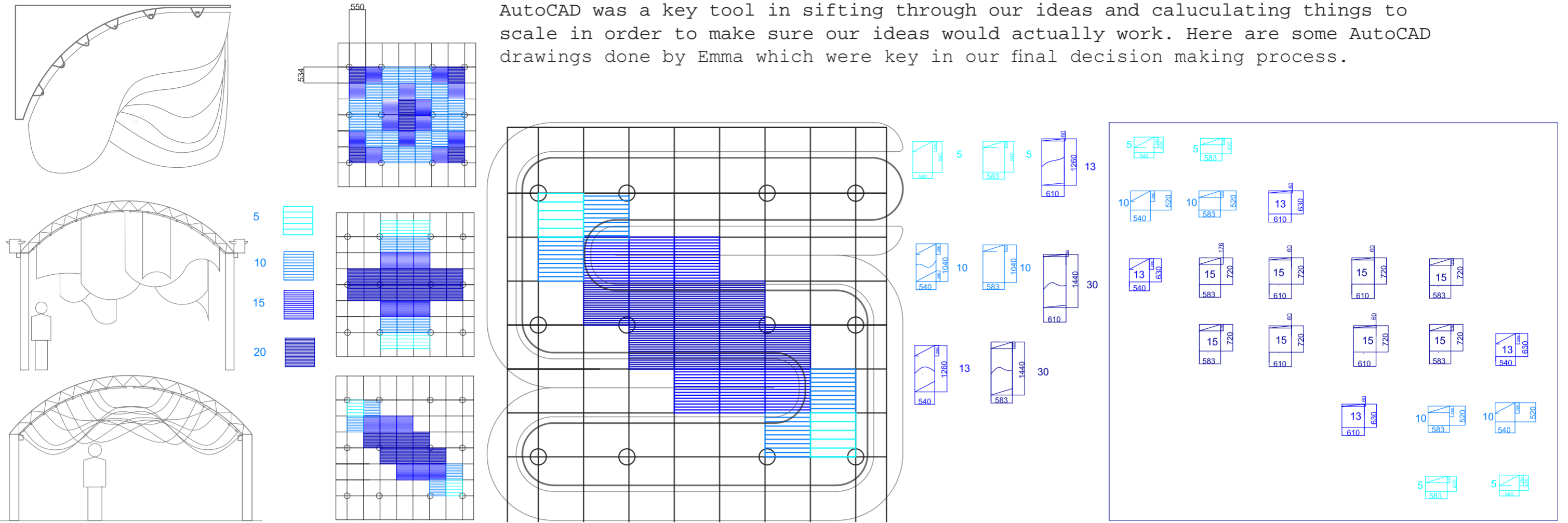


development of form



After many prototypes and various explorations, we were able to make decisions about our design without needing too much information from other groups. First being our prototyping stage which revealed to us how certain amounts of plastic sheets will look and how that can work towards the overall shape of our design. Next we drew inspiration from the wind variation studies for our oscillating pattern. Finally, once the table team had finalized their design, we were able to decide where our sheets would hang. We placed it in a diagonal connecting either end of the table to create a cohesion between the table and overhead while also saving head space.

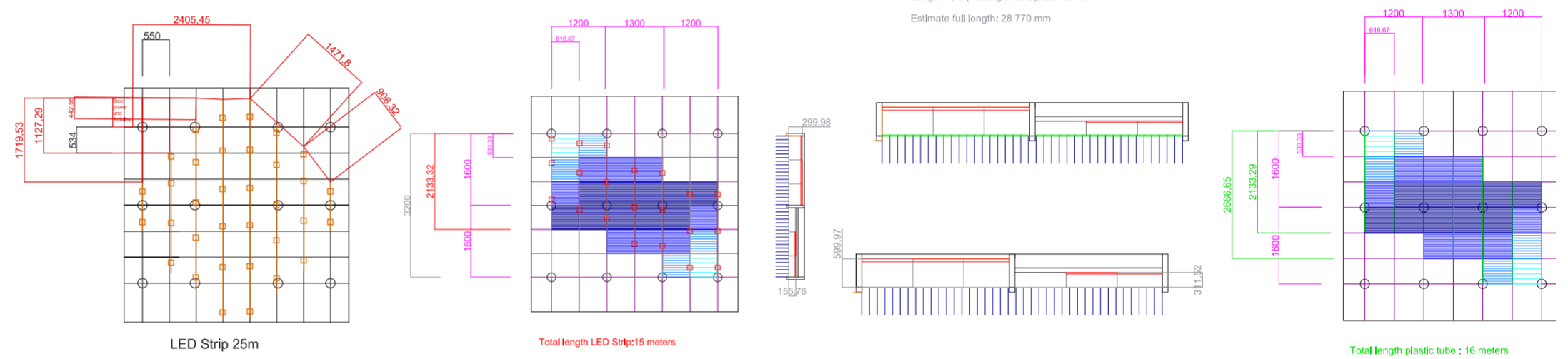
cad drawings



AutoCAD was a key tool in sifting through our ideas and calculating things to scale in order to make sure our ideas would actually work. Here are some AutoCAD drawings done by Emma which were key in our final decision making process.

interactives

The Interactives portion of our assignment was taken on mostly by Tino and Andrew. Once we decided that we wanted our project to respond to wind- it was then their job to use Arduino to get LED lights to respond to movement of the plastic from the wind. AutoCAD was also used here to calculate wiring and length of LED strips needed.



health & safety



HC University for the Creative Arts

Student Work Risk Assessment (INSTALLATION)

RISK ASSESSMENT
This risk assessment is applicable to exhibition design, build, installation, display & dismantling.
The overall risk is assessed as: Low Medium High

Date assessment completed: _____
Name: _____
Course: interior design

Location of Exhibit: _____
Description of Exhibit: university for creative arts (round) first build - quadric design

If exhibit is not on the University Campus, please complete the following section:
Do you have signed location permission? N/A
Does the venue/location require you to complete a risk assessment? N/A

Identify potential hazards - who could be affected, how they could be affected, and list the control measures that will reduce the risk. University RSH policies can be found here:

Hazard(s) (see risk)	Who may be affected? and how?	List the control measures you will put in place to reduce risks from the hazards to an acceptable standard?	Seriousness of hazard	Likelihood of impact?
Access/Egress				
Allergens				
Audience/public	what is to be done	ensure structure complete	low	low
Compressed gas / gas				
Confined spaces	structure is open - people not too near	people not too near	low	low
Cranes, hoists, lifts & access platforms				
Dangerous structures	heavy weight - regular equipment	regular equipment	low	low
Electricity	heavy weight - regular equipment	regular equipment	low	low
Falling objects	heavy weight - regular equipment	regular equipment	low	low
Fire	plastic lighter - hot plastic melting	plastic lighter - hot plastic melting	low	low
Food				
Generators				
Glass				
Hand tools	heavy weight - regular equipment	regular equipment	low	low
Hazardous substances				
Heat / cold				

8. Signatures required dependent on Risk Rating:

Position	Risk	Name & Signature	Date
Unit Tutor	High		
Pathway Leader	High		
Technician/Tech Tutor	High		
Course Leader	High		
Facilities Manager *if relating to the building works	High		
Residential Manager	High		
Head of School	High		
Health & Safety Manager	High		

9. Additional controls measures required from any of the above signatures?

February 2018 2 of 2

HC University for the Creative Arts

Risk Rating Guidance

Severity	Likelihood
High	High
Medium	Medium
Low	Low

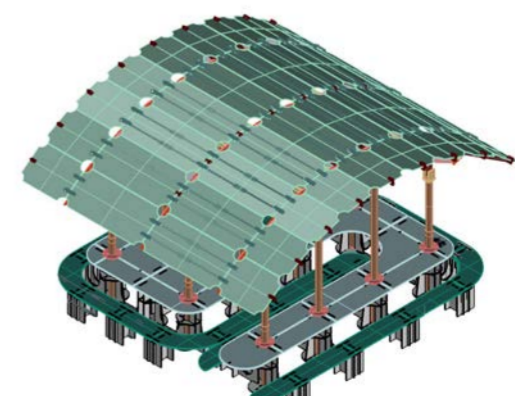
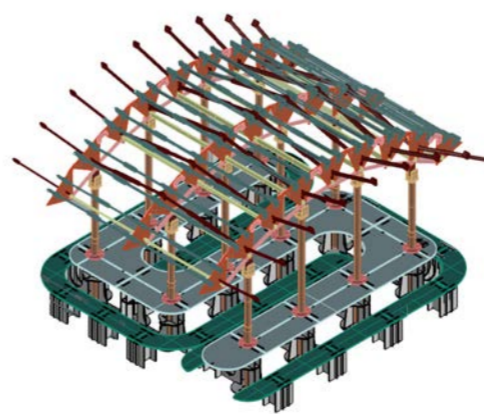
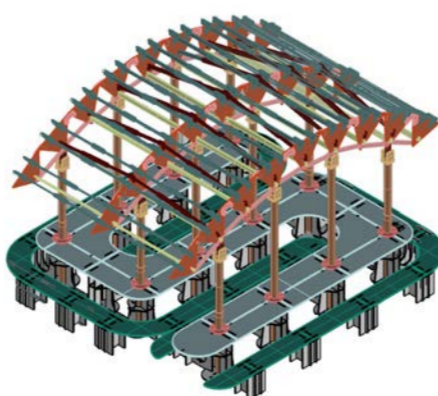
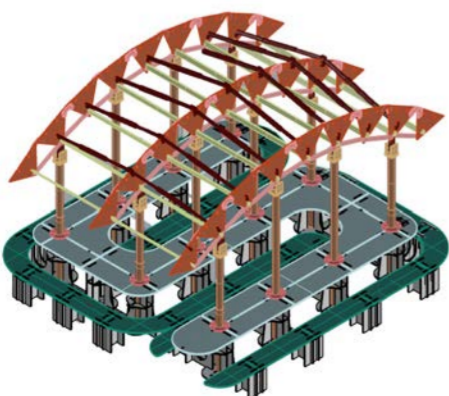
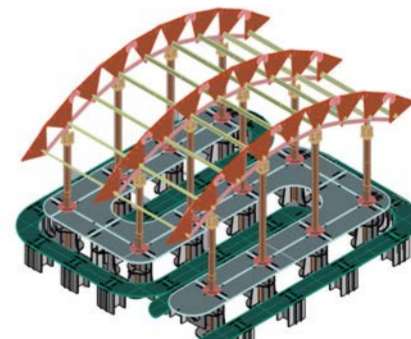
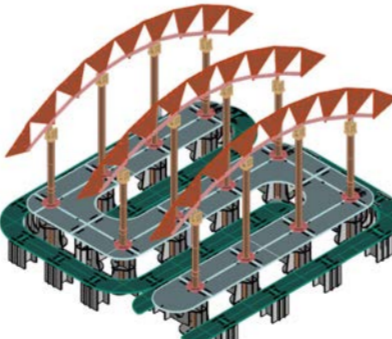
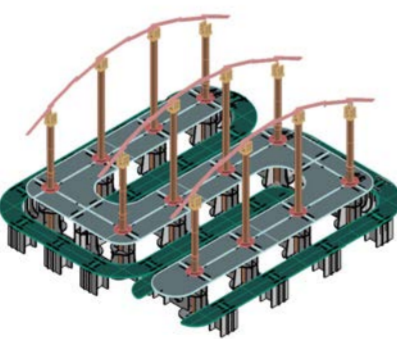
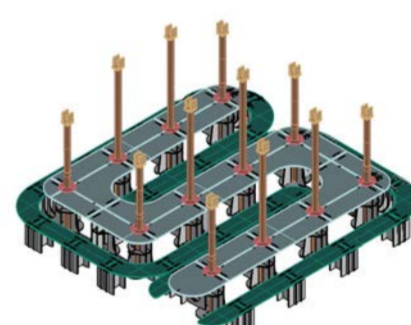
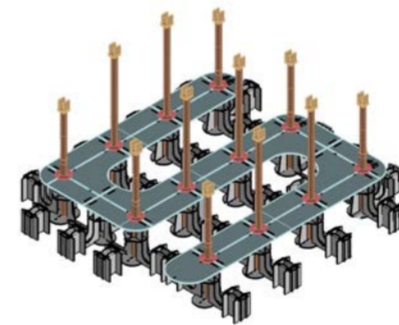
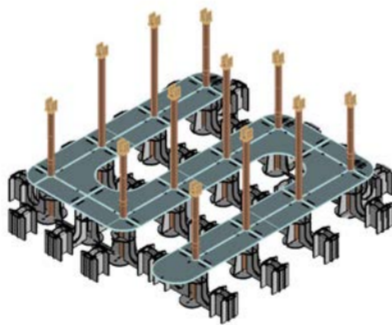
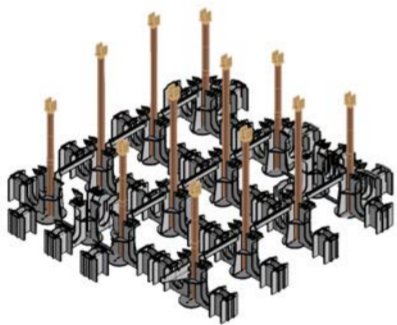
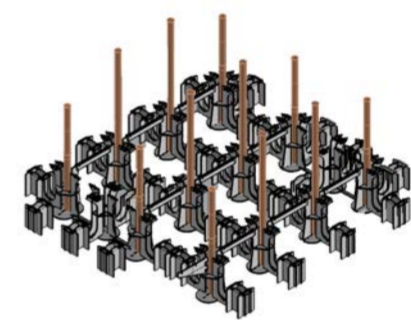
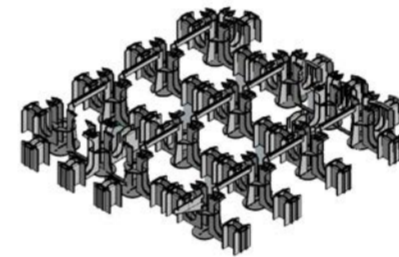
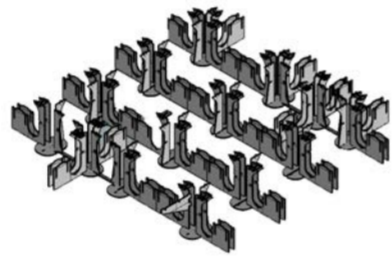
Risk Rating Guidance

- High - Hazard capable of resulting in death, serious injury, disability or serious stress.
- Medium - Hazard capable of resulting in moderate personal injury/damage/loss capability.
- Low - Hazard resulting in minor injury requiring first aid and/or treatment/loss of time or slight damage.
- A minor loss event to the individual or the organization.

Risk Rating Guidance

- High - Hazard capable of resulting in death, serious injury, disability or serious stress.
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final structure





PLAN WITH SITE CONTEXT

SCALE: 1:100



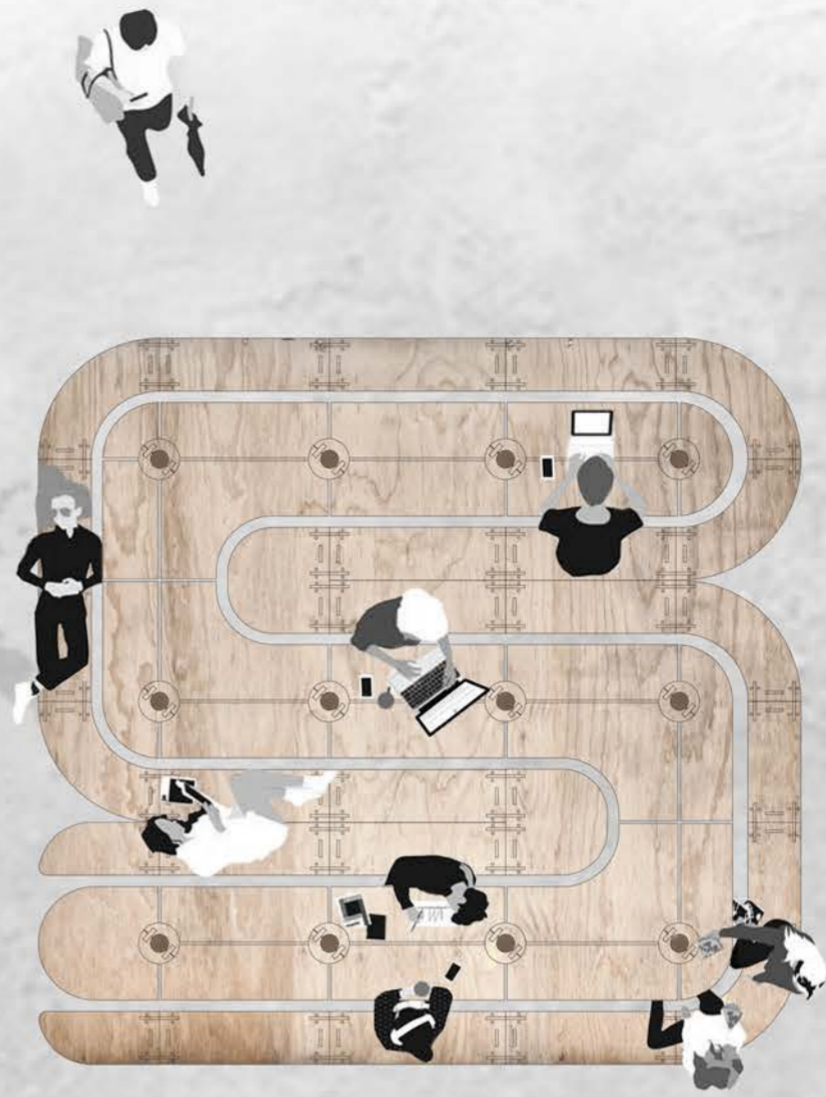
NORTH WEST ELEVATION

SCALE: 1:100



NORTH EAST SECTION

SCALE: 1:100



INHABITED PLAN

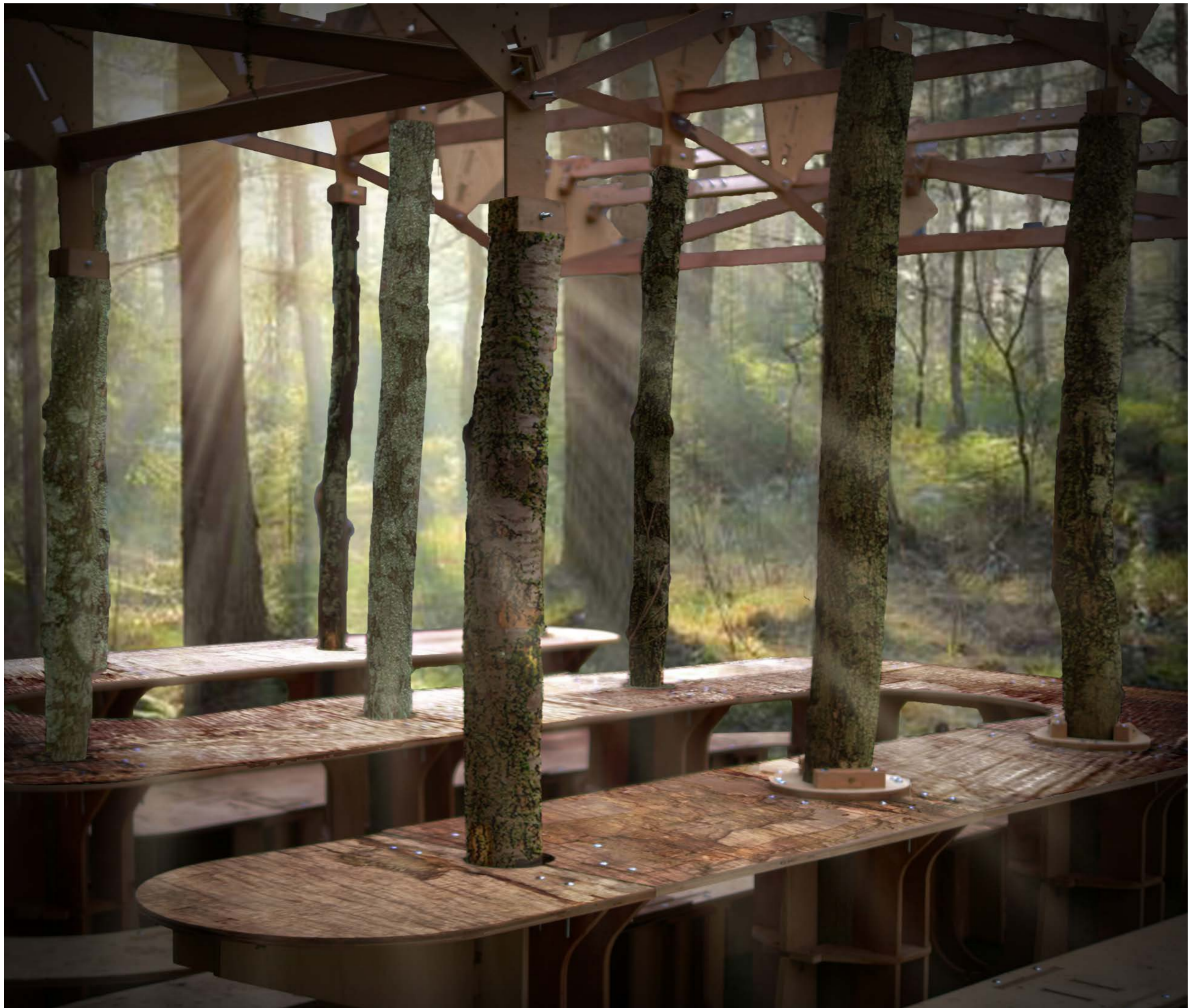
SCALE: 1:50



NORTH WEST INHABITED ELEVATION

SCALE: 1:50





Phase 2: Biodegradability



NATURAL "WITHOUT ANY SCIENTIFIC TREATMENT"

DELAY

ORGANIC

BACTERIA

BREAKS DOWN

INNOCUOUS

NOT HARMFUL

AVOIDING POLLUTION

DECOMPOSED

key

descriptors

FROM LIFE

understanding the word

-CAPABLE OF BEING DECOMPOSED BY BACTERIA OR OTHER LIVING ORGANISMS

PROCESS BY WHICH ORGANIC SUBSTANCES ARE BROKEN DOWN INTO SMALLER SIMPLER ORGANIC MATTER

| bio·de·grad·able |
\\,bi-(,)ō-di-'grā-də-bəl \\
/,bair(ə)dr'grɛdəb(ə)l/

Google images

SCI-FI
-SCIENCE FICTION
-FUTURE
-SPECULAR

VERNAacular
-HISTORY
-FAMILIAR
-LOCAL

*EXPLORE YOUR INTERPRETATION OF SCI-FI VERNACULAR

WE CHANGE THE IDEA OF VERNACULAR

Degrade = death
Bio = Life
Bio+degrade = Life+death

connection to sci-fi vernacular

Biodegradability

biodegradability
biodegradability test
biodegradability of plastics
biodegradability meaning
biodegradability chart
biodegradability definition
biodegradability standards
biodegradability testing uk
biodegradability of pla
biodegradability test for polymers

TIME - IS A KEY COMPONENT TO BIODEGRADATION
↳ HOW TO SHOW A PASSING OF TIME

LICHEN

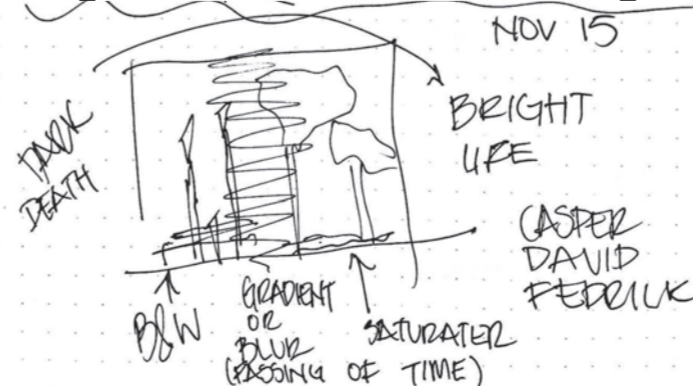
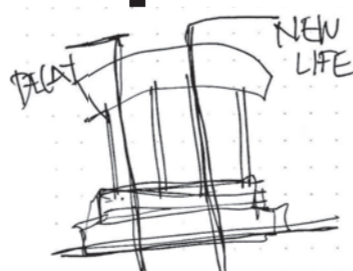
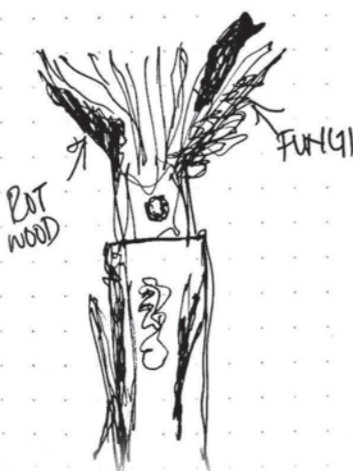
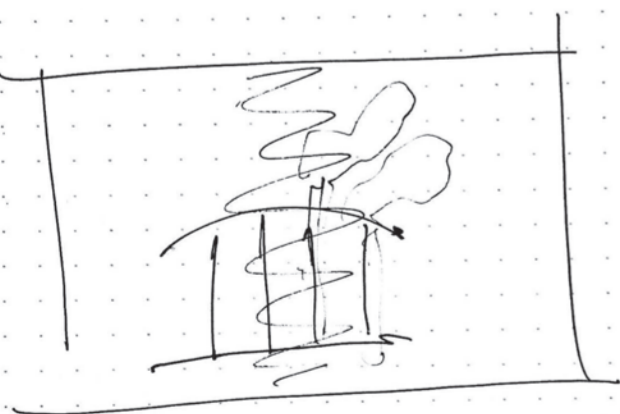
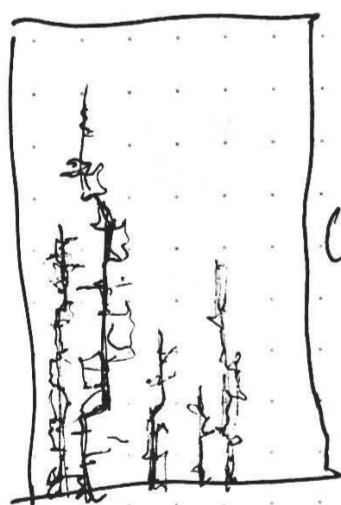
organism which lives off the death of thing which it grows on



- NOV 5
BIODEGRADABLE - VISUAL REPRESENTATION
-CANOPY/PAVILION COLLAPSING/FALLING INTO ITSELF
↳ SERIES OF IMAGES SHOWING PASSING OF TIME
-GROWING MOLD/FUNGUS OR MOSS/LICHEN THAT SLOWLY EATS AWAY AT STRUCTURE
-SHOW SKELETON OF STRUCTURE BY IDENTIFYING DENSE AREAS
↳ IDENTIFY WHAT CAUSES DELAY OF STRUCTURE
↳ USER'S 2 - STUDENTS TAKING APART

visual representation

ideas



INFABITATION
↳ SERIES OF PHOTOS
1 BARE LAND 2 PLYWOOD WEAKS
↳ GRASS GROWING (MEANING LIGHT COMES BACK)
3 JUST TREE TRUNKS + BENCHES
↳ NEW TREES GROWING (SUNSET?)
4 TREES + STRUCTURE BLENDED TOGETHER



biodegradable colour analysis

an important aspect to any visual piece- is colour. to create the most accurate narrative for biodegradability i must investigate from other references what colours are used to communicate the life & death of biodegradation.

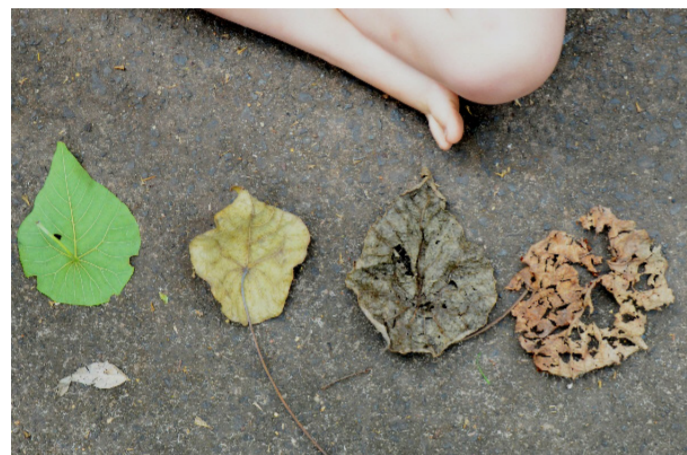
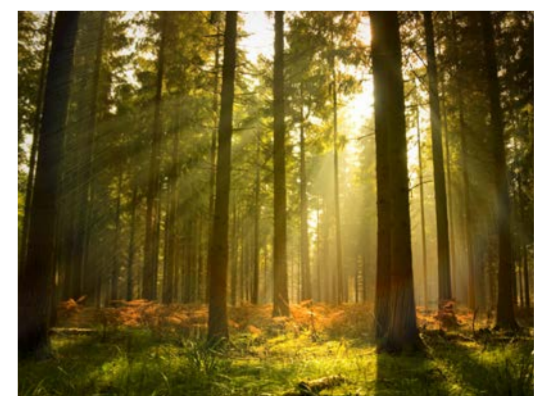
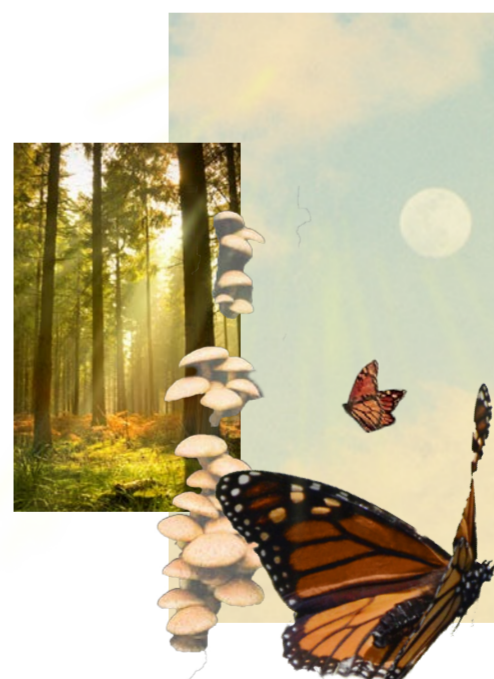
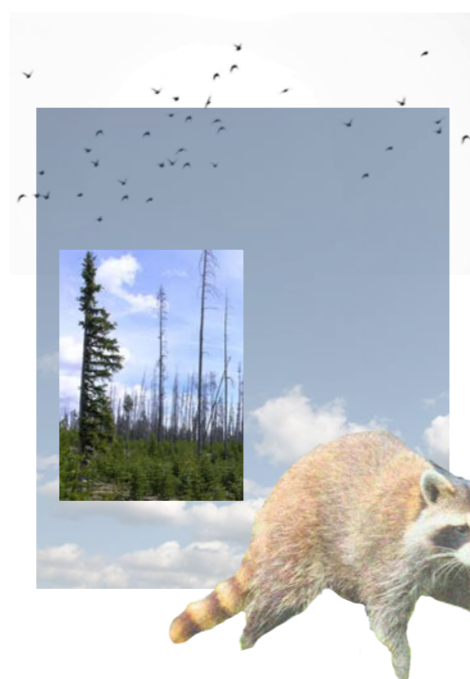
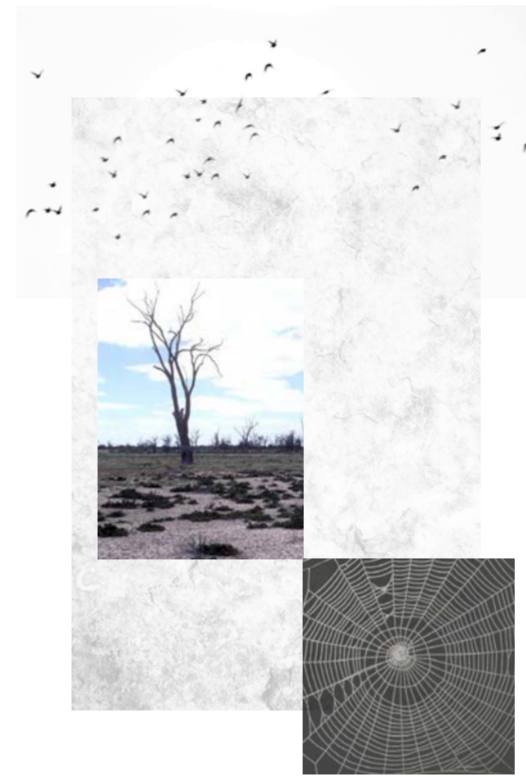
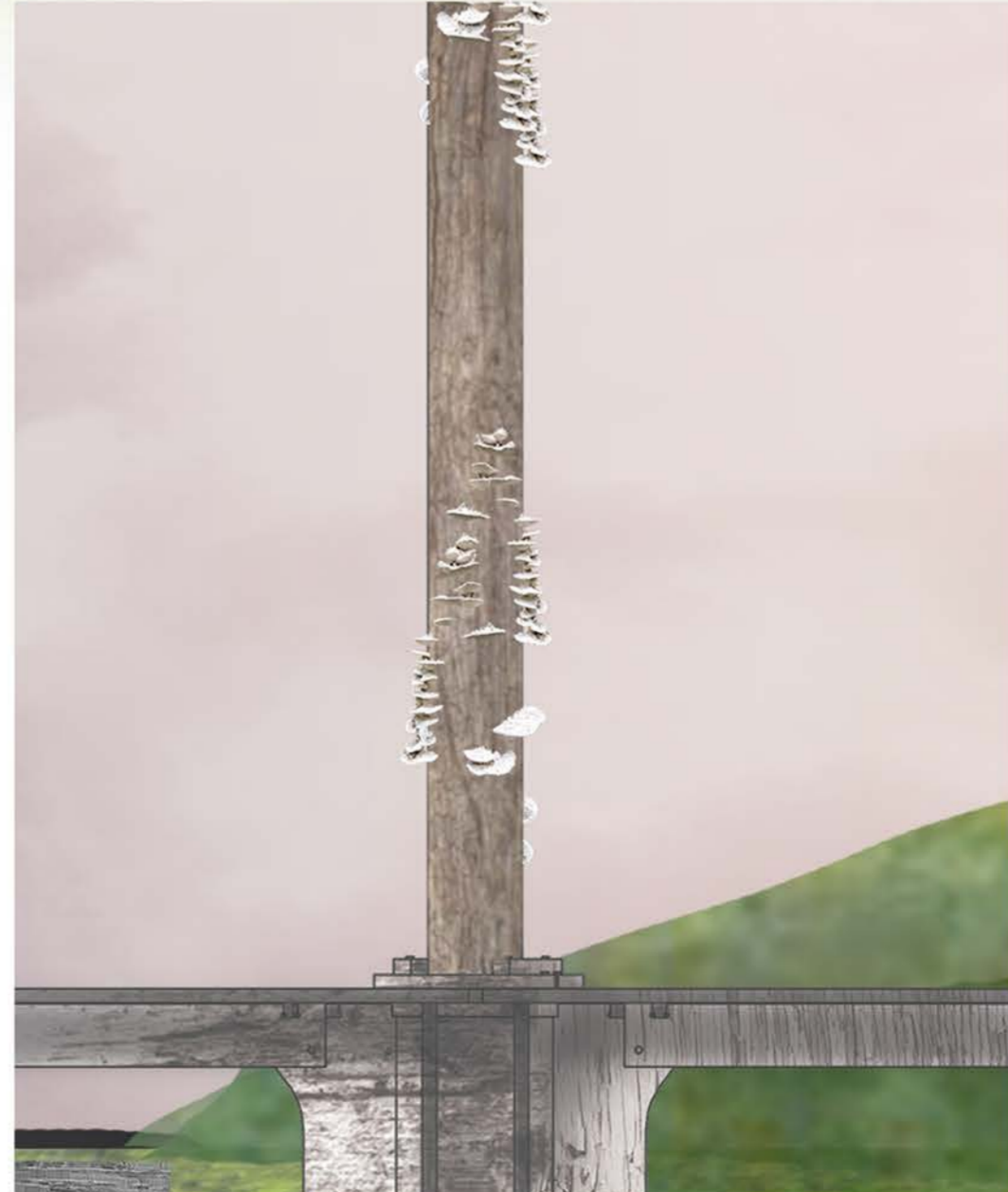
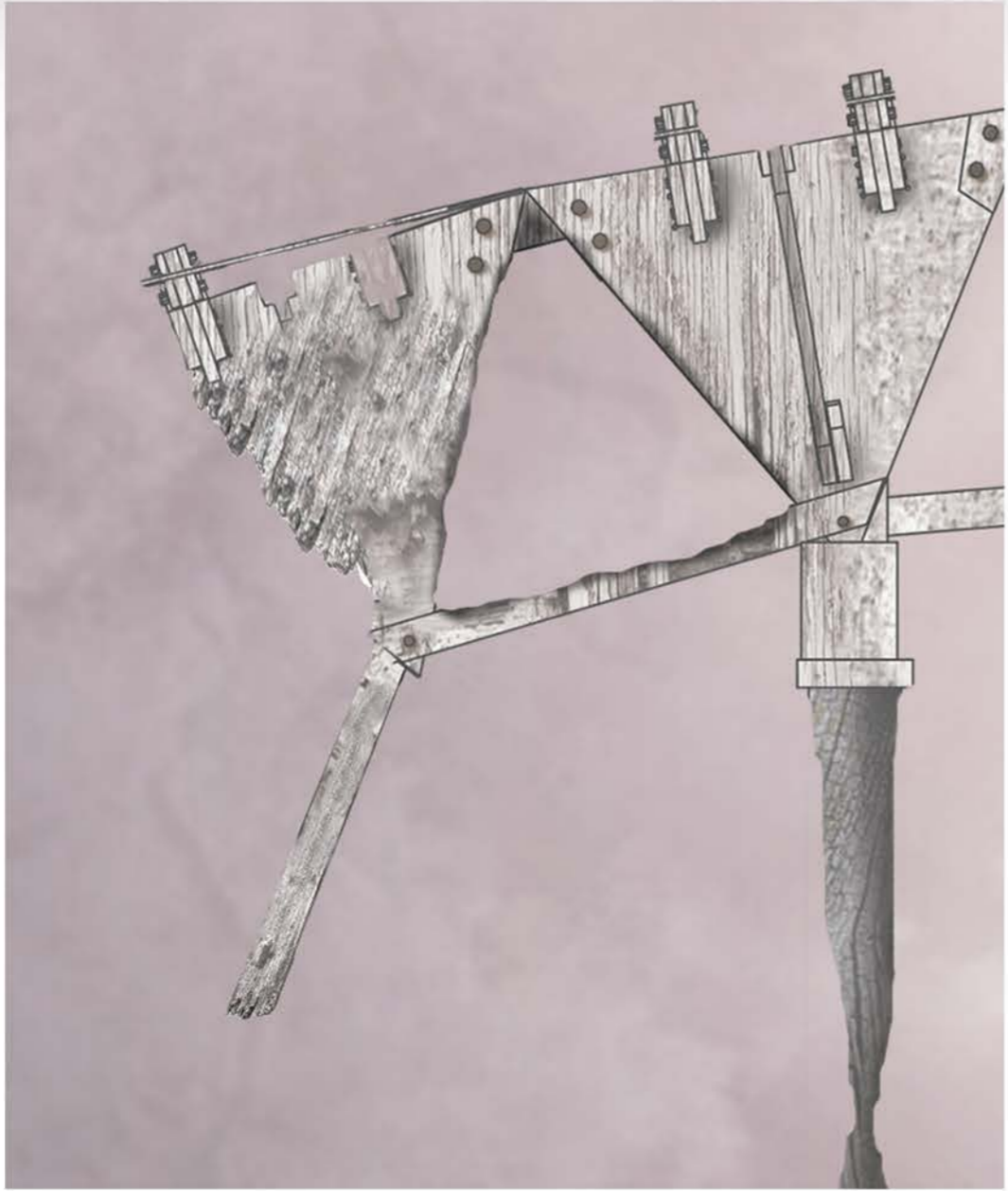


photo mood prep

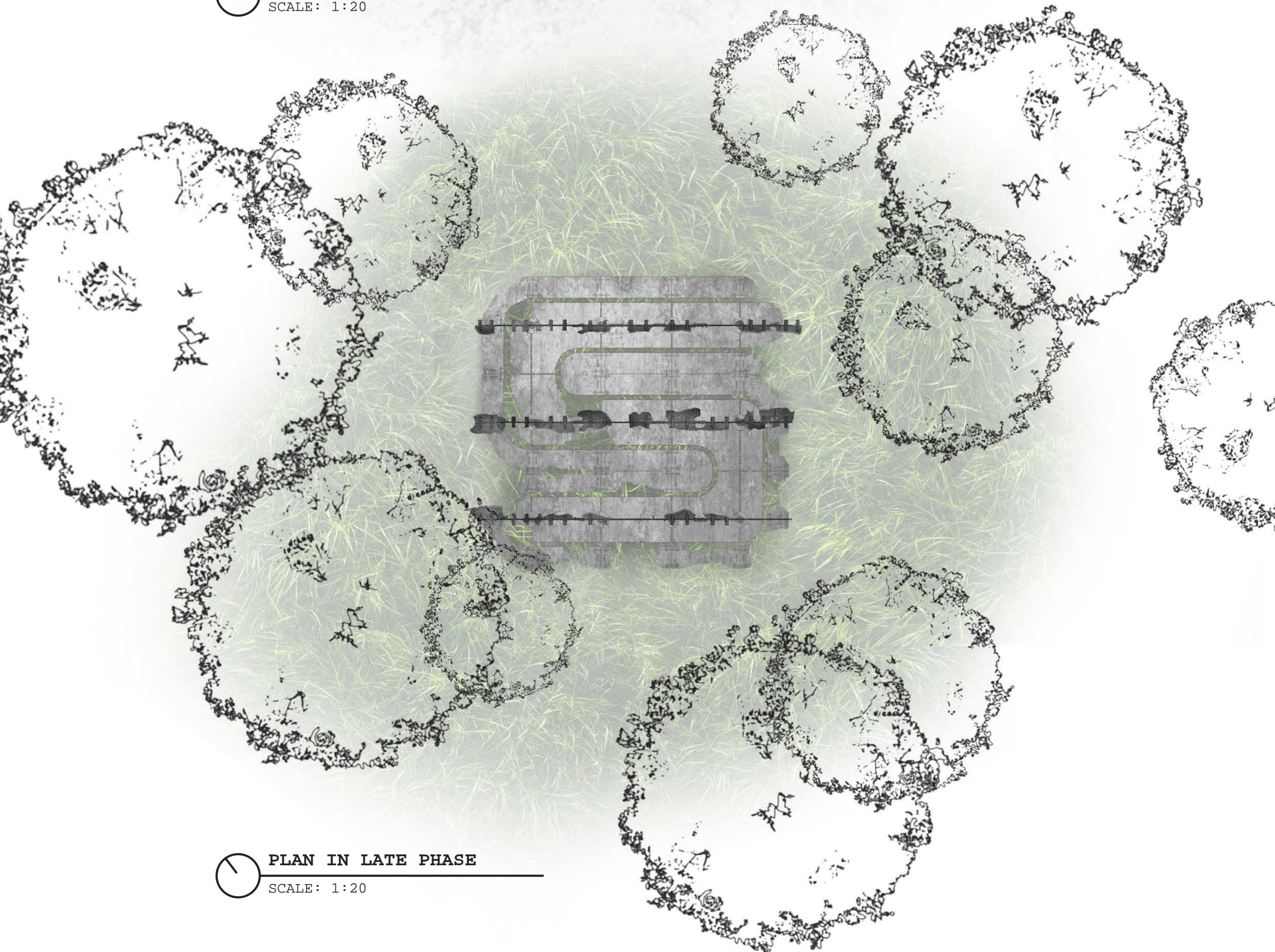






PLAN IN EARLY PHASE

SCALE: 1:20



PLAN IN LATE PHASE

SCALE: 1:20





