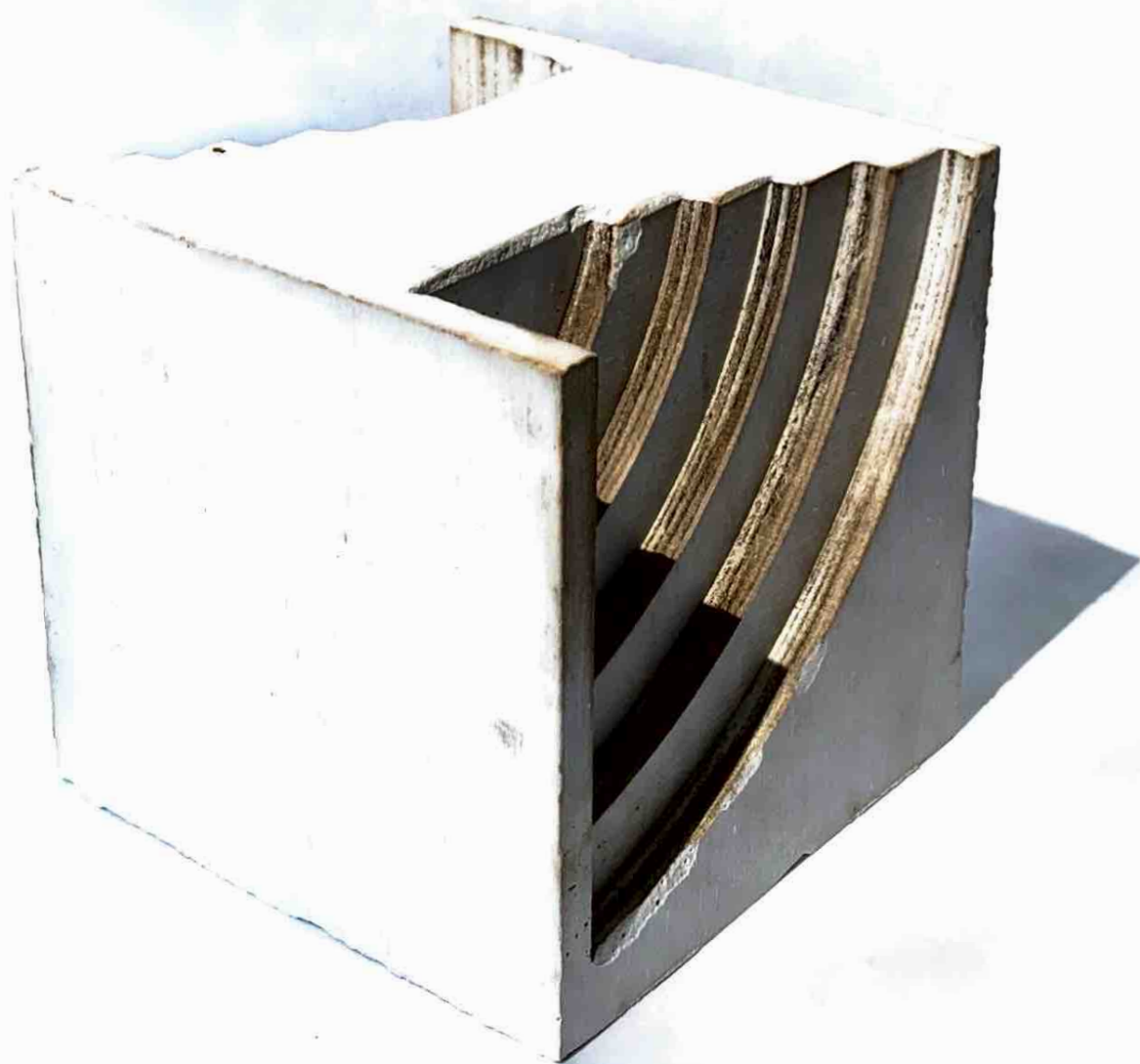




Portfolio

Design Implementation II
Clemson University
Michael Tyler, MLA

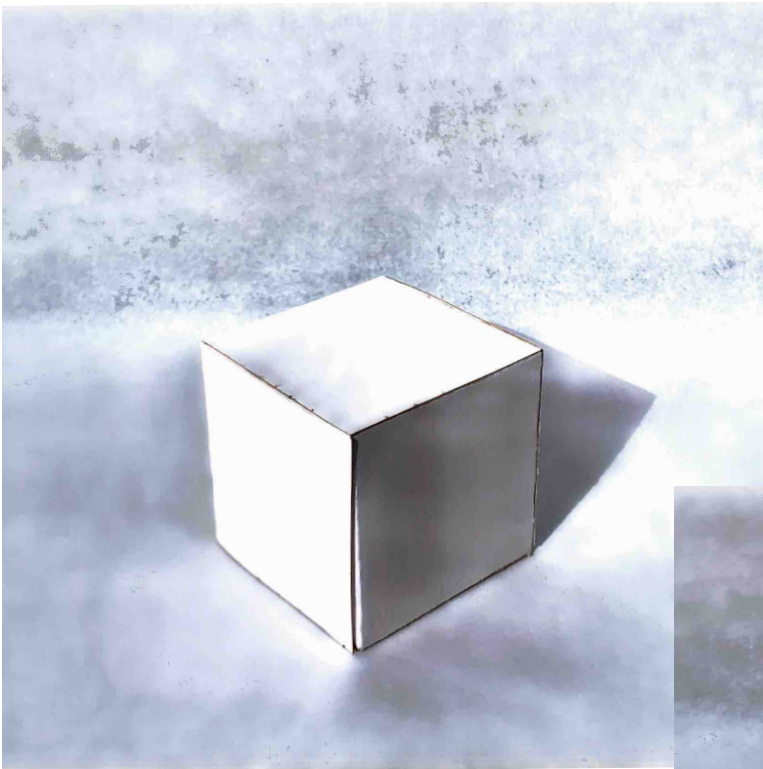
Project 1

Part 1

- Select one of your three $\frac{1}{4}$ scale conceptual models to develop
- Re-imagine your concept being constructed out of dimensional lumber: post, beam, joist, decking, slat, etc.
- Develop a new study model (card stock) that illustrates the character of your re-imagined wood structure at $\frac{1}{2}" = 1'-0"$. [larger]
- By hand, draft plans, sections, and elevations of the developed structure at $\frac{1}{2}" = 1'-0"$. [use 8.5" x 11" sheet for each detail]

Part 2

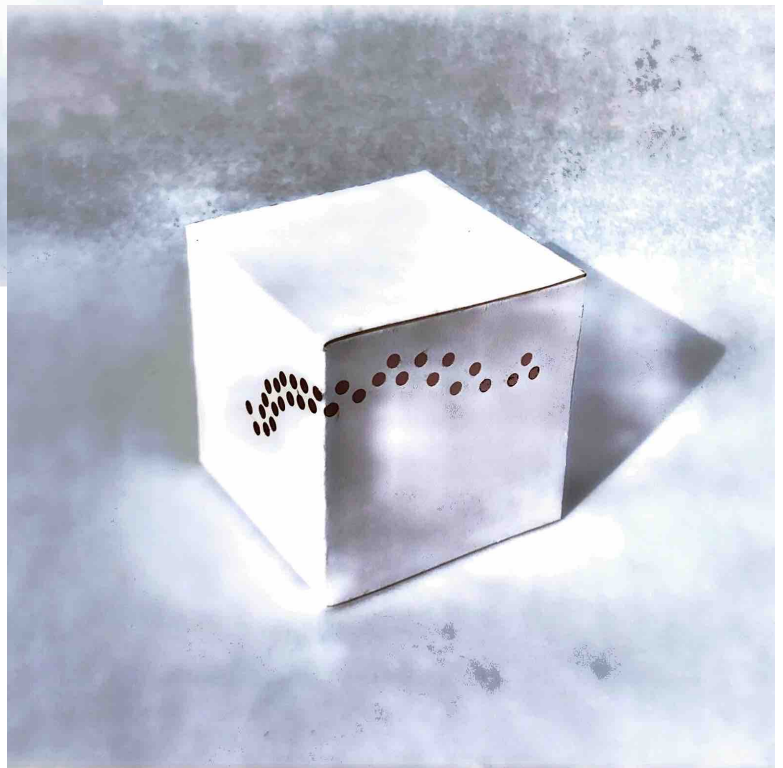
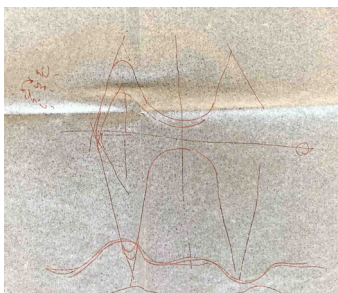
- Construct a final scaled model of your structure using balsa or basswood at $\frac{1}{2}" = 1'-0"$
- Draft digital plans, sections, and elevations of the developed structure at $\frac{1}{2}" = 1'-0"$. [use 8.5" x 11" sheet for each detail]



My idea for this project relied heavily on the flexibility of cardstock paper.

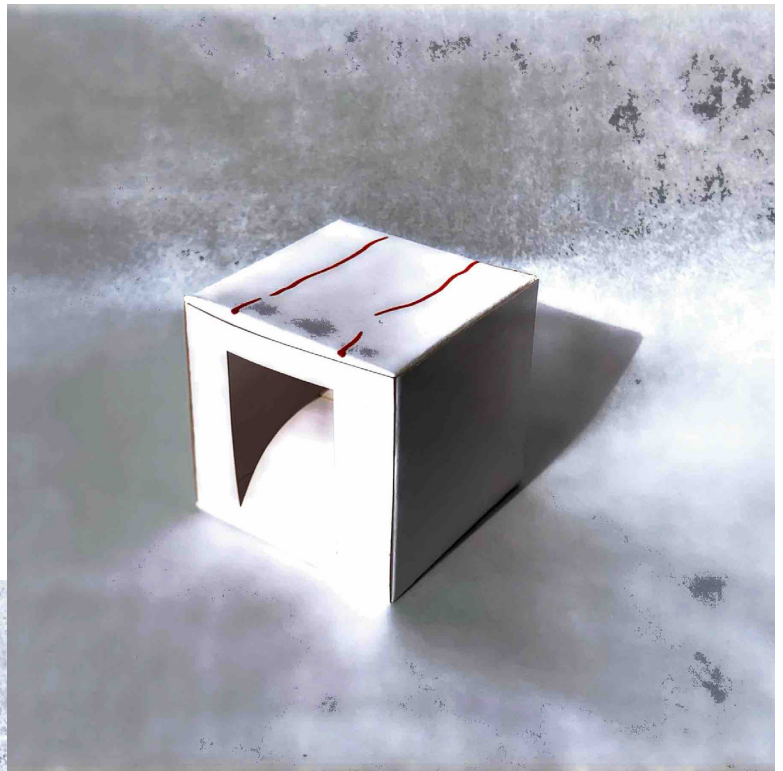
Slicing a rectangular line into the side of the box allowed for there to be some sort of bridge connecting the two sides and allowing for light to enter in an interesting way.

This proved to be a difficult concept to construct using the materials.



After several iterations and study models, I was interested in creating something that would create some sort of pathway through the box where light could travel in an almost inverse method.

Once again, this was difficult to achieve with the wood-based materials.

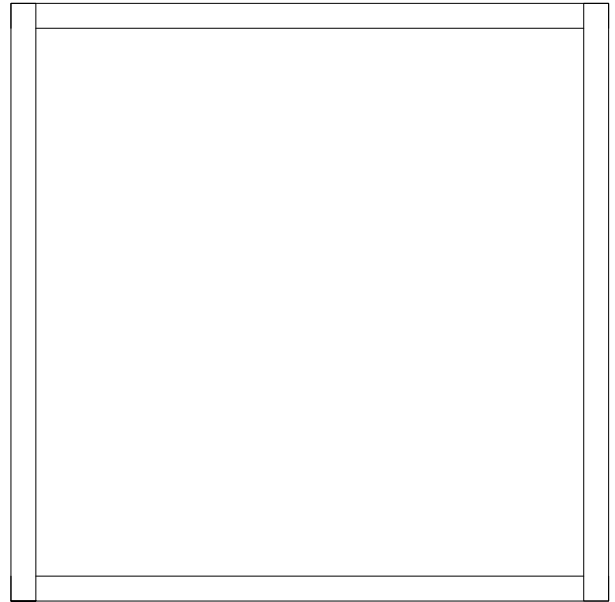
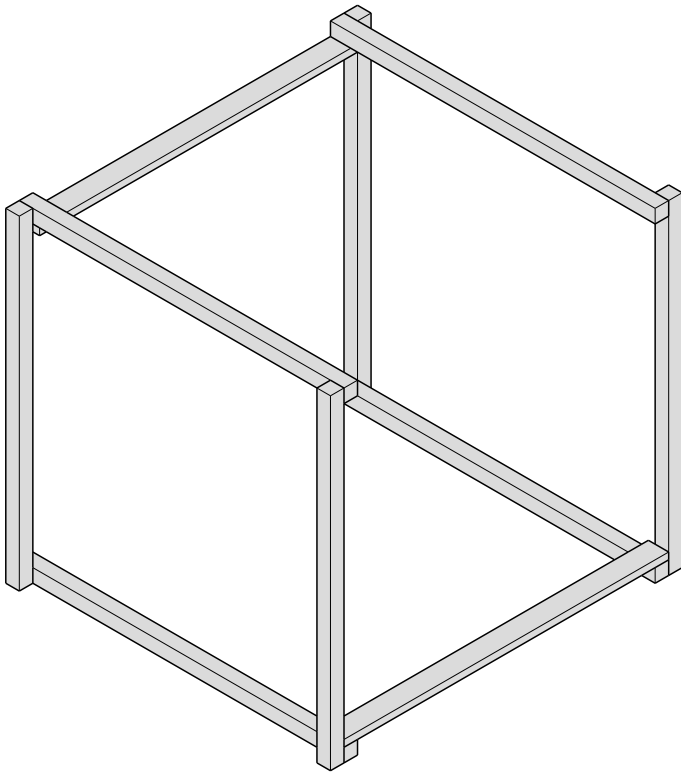


For Part Two of the project, I created this outline of a cube entirely out of bass wood that was hand cut.

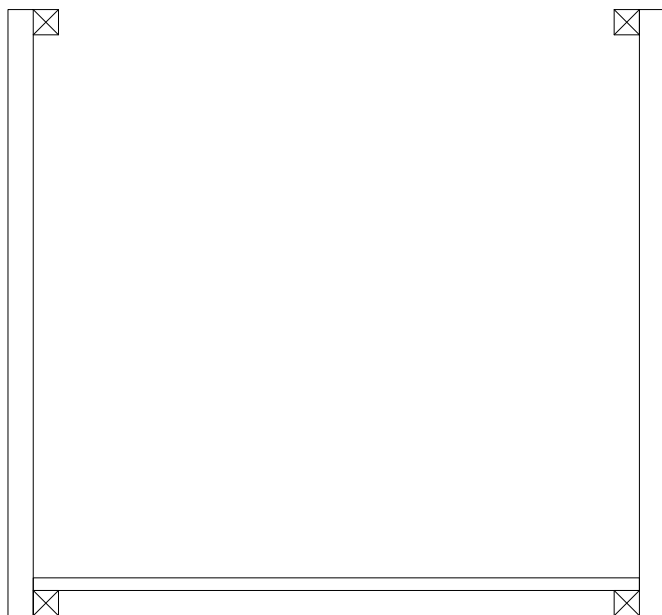
Laser cutting would have been a more effective process, but cutting these by hand illustrated the pivotal nature of joinery and the wood craft process.

I lost my mind several times because of the difficult nature of joining the pieces together with Super Glue.





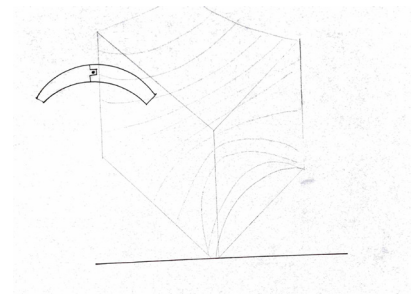
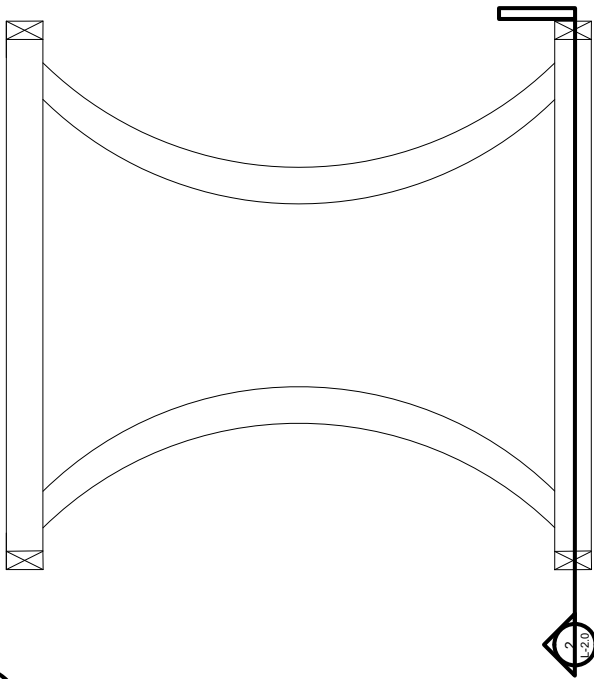
Scale: $\frac{1}{2}'' = 1' - 0''$
TA MLA
Michael Tyler



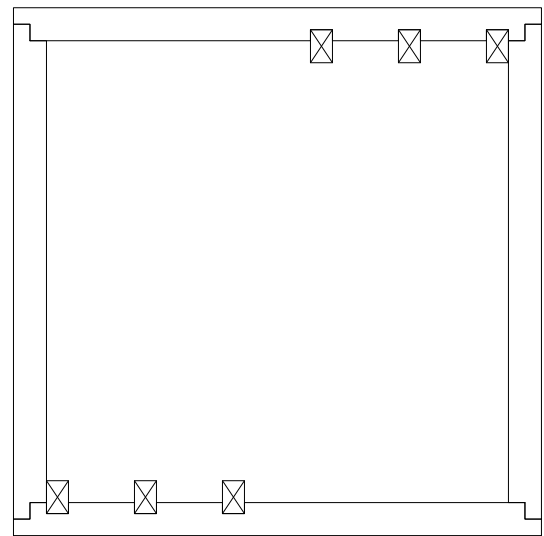
Project 1
Elevation Projection

Scale: $\frac{1}{2}'' = 1' - 0''$
TA MLA
Michael Tyler

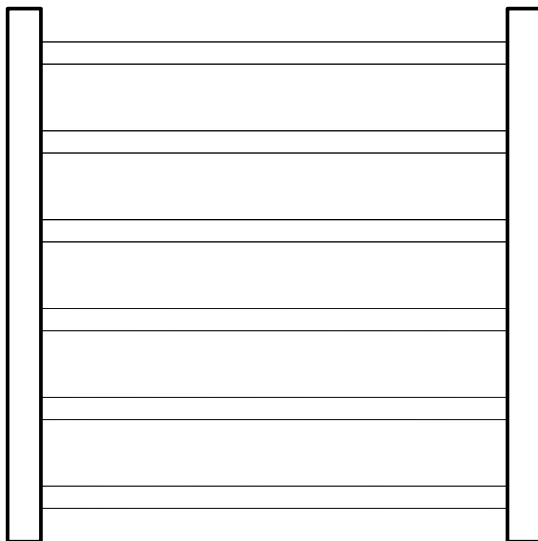
Project 1
Section Projection



1 Project 1: Plan
 $\frac{1}{2}" = 1' - 0"$ TA MLA
 Michael Tyler



2 Project 1: Section
 $\frac{1}{2}" = 1' - 0"$ TA MLA
 Michael Tyler



3 Project 1: Elevation
 $\frac{1}{2}" = 1' - 0"$ TA MLA
 Michael Tyler

Being able to laser cut the wood, allowed me to shape the wood in the pattern I originally desired.

Using a series of arches that connected the main structure together creates a pathway through the space for light to travel.

Additionally, if this was constructed, the space would be an interesting test of play where the user could traverse through a series of bars and arches.

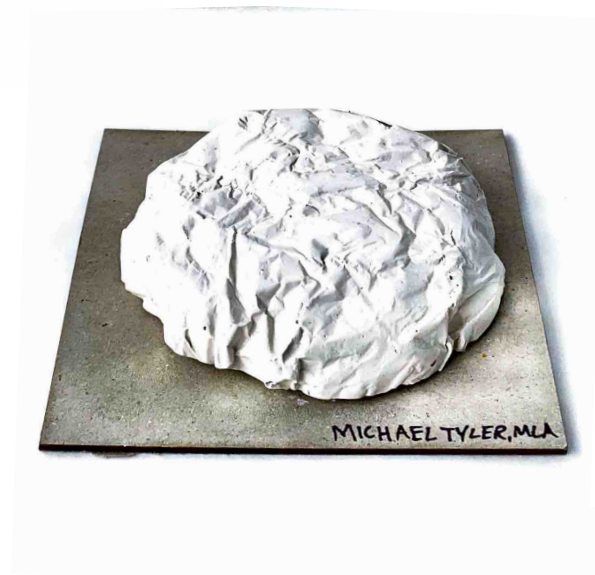
The glue process, once again, proved difficult and I do believe that the actual structure would be easier to construct with wood screws and nails.





Project 2

Using plaster of Paris prepare 3 different casts of found objects. Each cast should be able to be placed on a 4" x 4" sheet of paper. As you select your object to cast think about if you are creating a volume, a mass, or capturing a surface. Other things you may consider are the shape of the object and its ability to release from the plaster. The material itself is also important; is it flexible, absorbent, porous? Do some preliminary research on castings and relief as well as how best to mix and pour plaster of Paris.



For my first foray into Plaster of Paris, I used aluminum foil, PAM cooking spray, and plaster cups in order to create molds for the plaster to set in.

The lessons learned with this intro surrounded having some sort of lubricant in order for the mold to exit cleanly.

Also, I learned that you would definitely need more plaster than anticipated.



Project 3

Part_1

Design and construct a form-work to receive a 4" x 4" x 4" plaster cube. Be sure that the form-work is rigid, stable and strong enough to undergo the "pour" and curing process. Forms should not warp, bend, stretch or shrink. Pay close attention to the material of the form, any liner, or how the form responds to the plaster as it cures. You want to be able to remove the form after it cures. Be sure the plaster has completely cured (is solid) prior to the start of class. We are looking for precise dimensions, smooth surfaces and crisp, square corners.

Part_2

Using the same 4" x 4" x 4" form or a new and refined one, adjust the form-work to create a negative space, within the 4" x 4" x 4" cube. That is, you will create a void within the cube itself through manipulation of the form-work. The negative space may be orthogonal (right angles). This will allow it to be modeled and measured with accuracy. You may also elect to use a free form or organic shaped negative space. The goal is to show control over the design, form and construction process. Keep your forms simple, remember to have an exit strategy that will allow the unwanted form pieces to release with ease from the material after it cures.

Create and design an additional 4" x 4" x 4" cube that has a texture embedded onto the surface of the cube. This should be easy to repeat and replicate in the future.

Lastly, design a third cube that has a function. That is, it may be a structure that can be occupied, it may be a device that holds or cradles another object. You determine the scale of the cube and how it is to be interpreted.

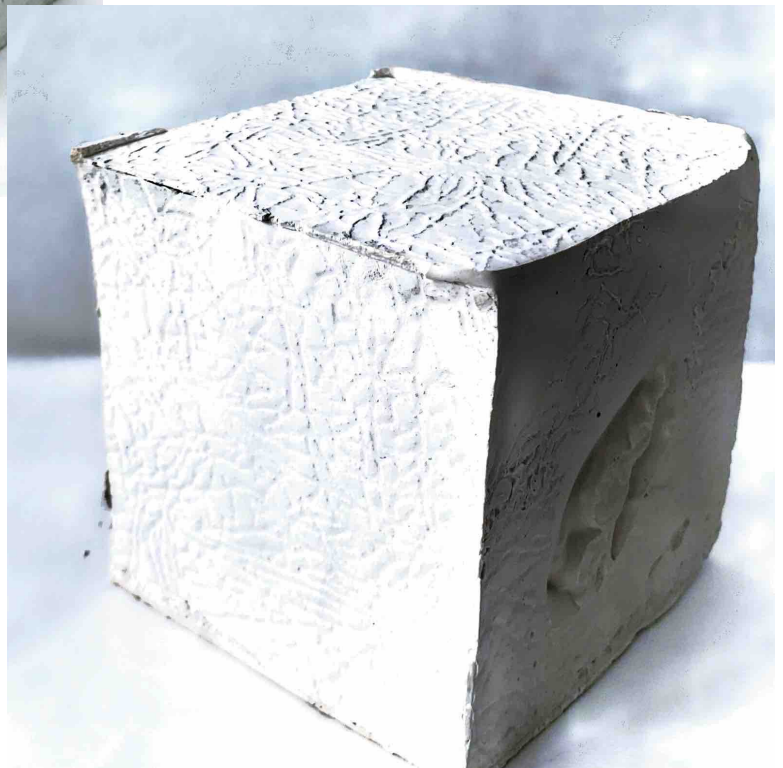
Part_3

Select one of the three cubes and develop that concept. Fine tune how the form is built to maximize craft, precision and execution of the work. Design a form strategy that is rigid and has a well thought out "exit strategy" for removing the form. You may consider using plaster of Paris, mortar, concrete or experiment with a combination of the three. As part of your exploration and study, prepare a 3D model using the application of your choice. the 3D model should accurately resemble the finished product.

This is the point in time where Plaster of Paris became my enemy.

I laser cut a wooden box and used painters tape to seal it. Unfortunately, I did not mix enough PoP at the time, and had to do a second pour which caused some discoloration.

Also, I did not agitate the mold enough, which led to bubbles appearing in the final model.



The first iteration was a solid 4x4 box.

The second iteration was a functional 4x4 box modeled after Dice.

The third iteration was a textured 4x4 box where I utilized a sheet of aluminum steel to create a texture along the sides.

The sheet of metal was very hard to cut and left a lot to be desired in the final model.

The iteration that proved to be most compelling was the negative space iteration.

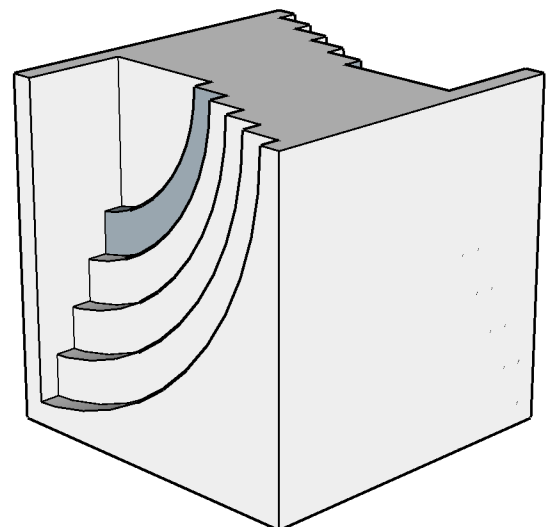
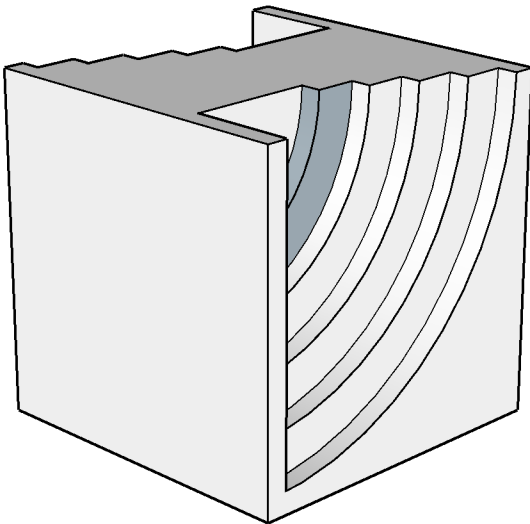
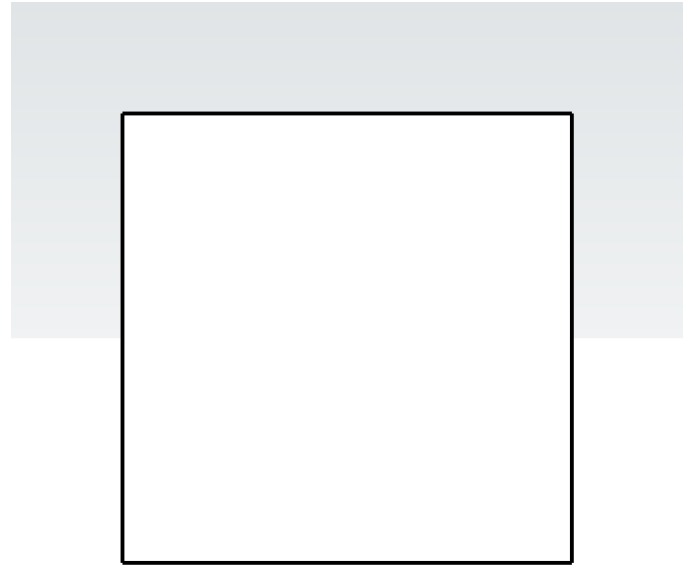
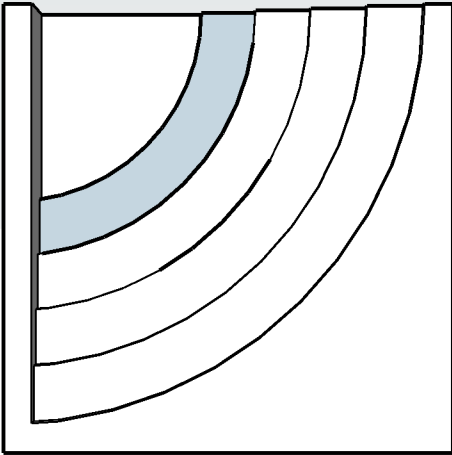
I utilized some curvatures to create some interesting negative spaces along both sides of the cube.

The lack of volume as the curve began to disappear allowed the plaster to break and chip off. This was further studied before the final iteration.

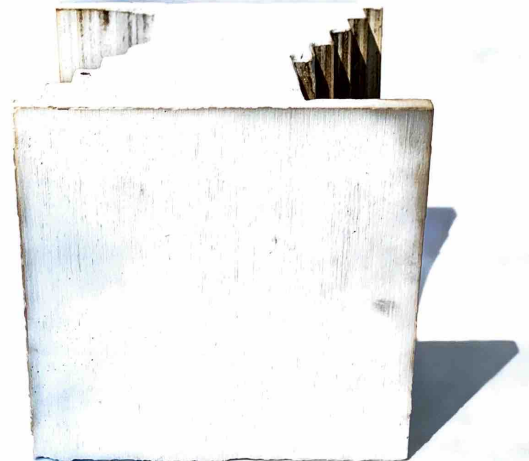
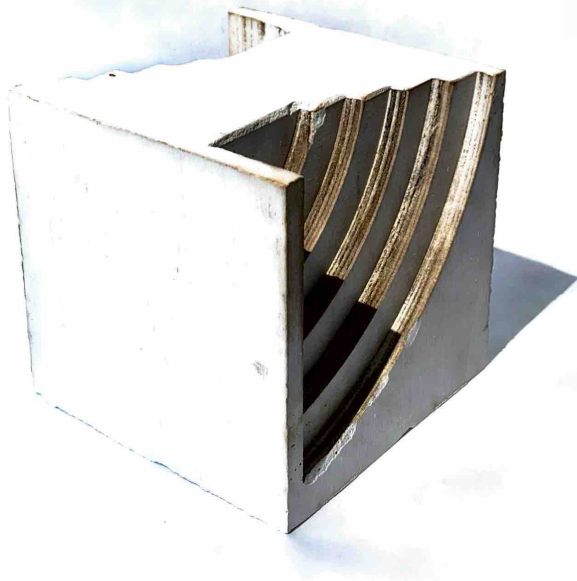


I, also, did not agitate the model very well and there were several bubbles, and the painters tape residue remained on the texture of the surface.

For the final iteration, I changed the form to allow for more volume at the terminus of the curves.

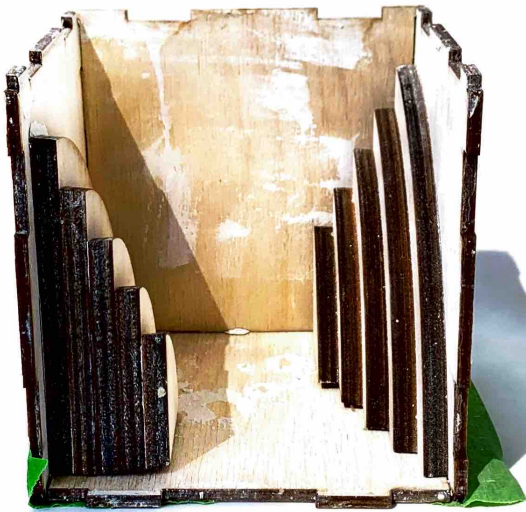


Also, I allowed the curve to be tiered in shape in order to give more structure to the curve and decrease the likelihood of chipping and breaking.



I am quite proud of the final result of this struggle with Plaster of Paris. This was an interesting structure that was achieved, and I would like to further study the simplicity of curves in the future. However, I have ruined several clothes with Plaster and lost numerous skin to Super Glue, expect an invoice in the future.

This is the mold used to achieve the final result. Notice the numerous layers of wood used to achieve the shape.



Project 4

Part 1

Using cardboard construct a model of the proposed topography and wall as it coordinates with the topographic plan. Include as much information as possible on the model. I.E. you may etch contour numbers, TW, BW, and slope arrows and indicators as necessary. If you wish to explore this exercise using the CNC machines you may. You may try 3D printing, but I do not recommend for this project

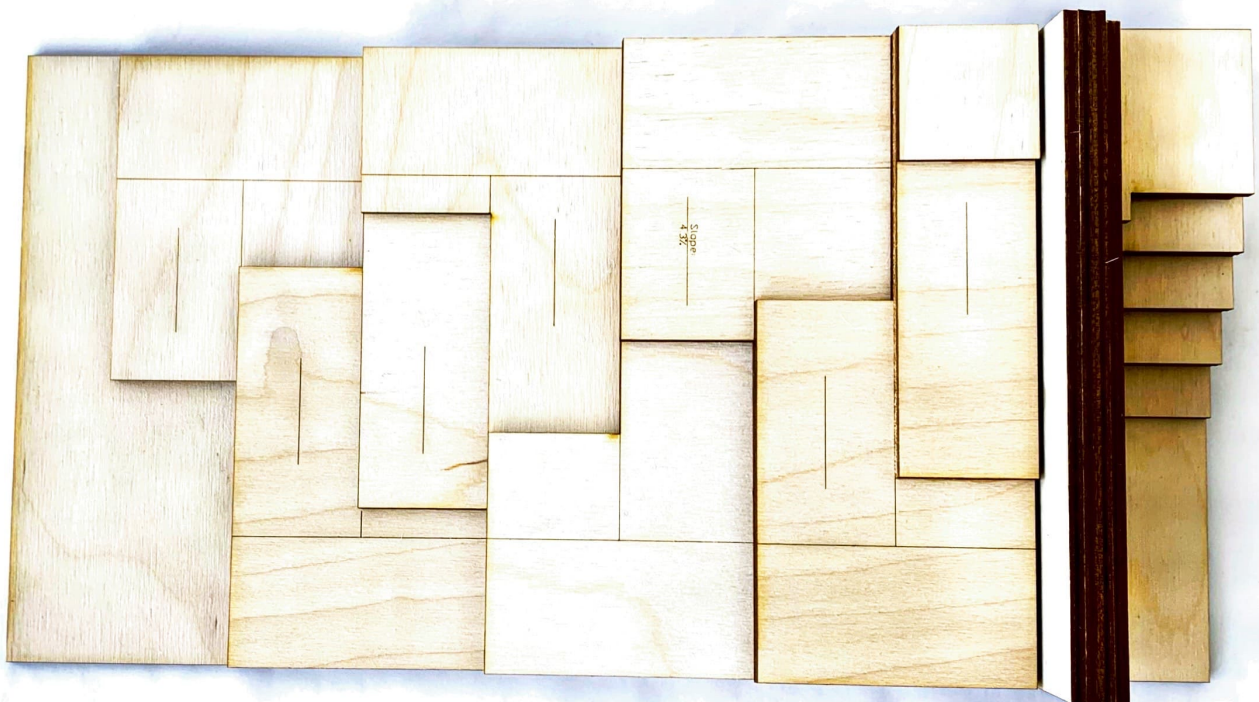
Model @ 1/4"=1'-0"

Part 2

Using chipboard design and construct a model solution that incorporates a set of steps that will negotiate the grade change between the proposed top of slope and bottom of slope. Steps shall be a maximum of 6" deep and minimum of 12" wide. Additionally, incorporate a ramp the successfully negotiates the proposed top of slope and bottom of slope and meets standard ADA standards for an ADA accessible ramp. (8.3% max slope for 30')

Include Grading Plans and sectional studies for both the proposed step and ramp solution. Include all necessary spot elevations, top and bottom of wall annotation, top and bottom of ramp spot elevations and indicate the slope of ramp.

Plans, Sections and Models @ 1/4"=1'-0"

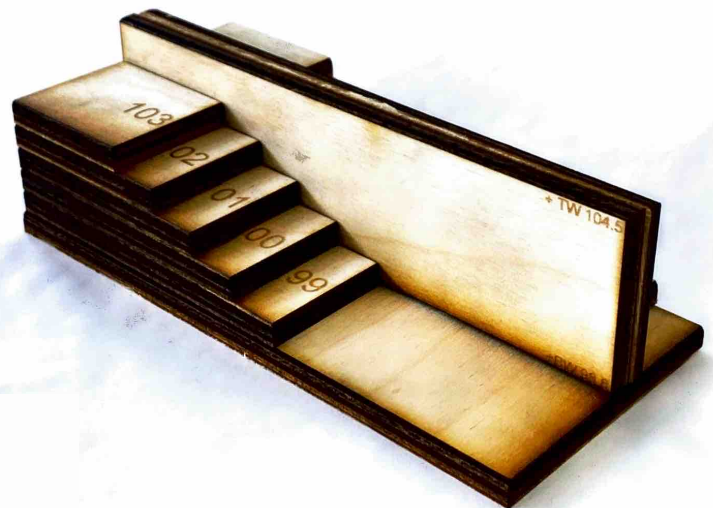


My first iteration used chip board to construct the topographic condition.

In my own foolishness, I measured incorrectly the thickness of the material which manifested an incorrect scale.

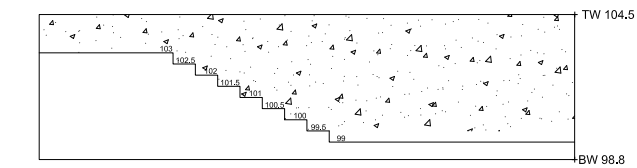


My second iteration utilized a correct material thickness and, therefore, was the correct scale. I, also, appreciate both the smell and look of laser cut wood.

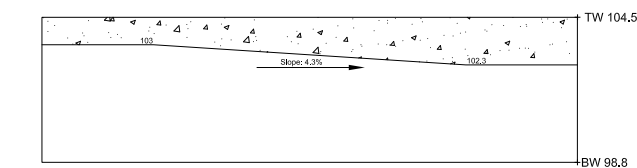


However, the size of the text made some of the numbers indicating contour lines disappear.

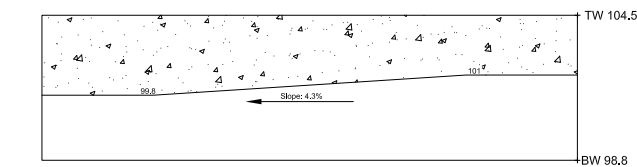
The following are my grading plans and sections of the final model for this project.



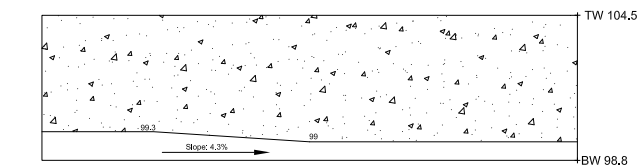
2 Section 1
 $\frac{1}{4}" = 1' - 0"$



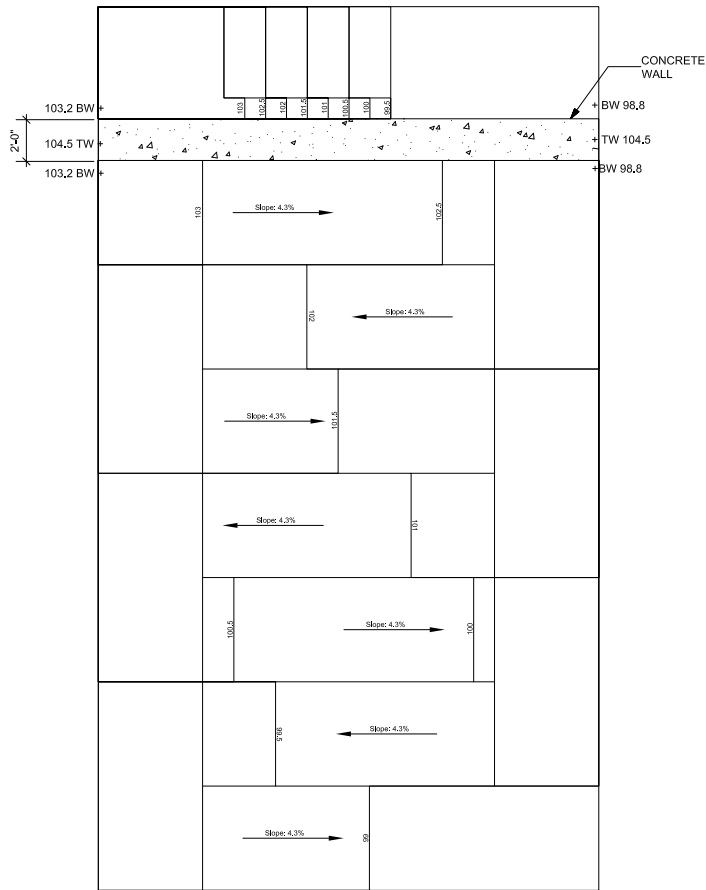
3 Section 2
 $\frac{1}{4}" = 1' - 0"$



4 Section 3
 $\frac{1}{4}" = 1' - 0"$

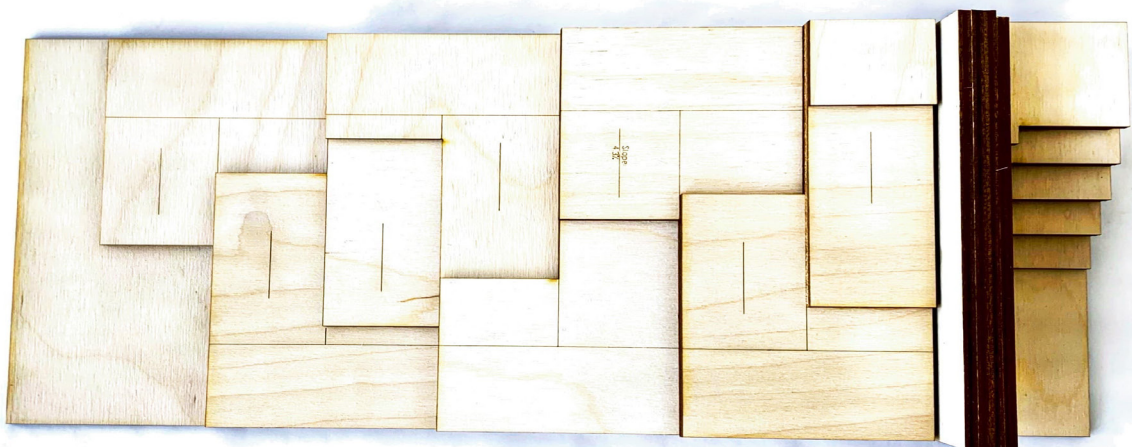
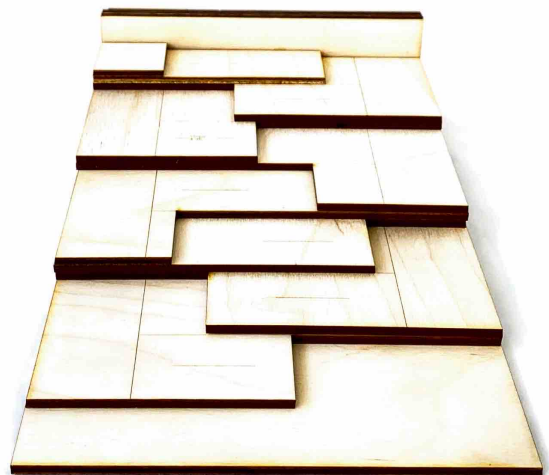
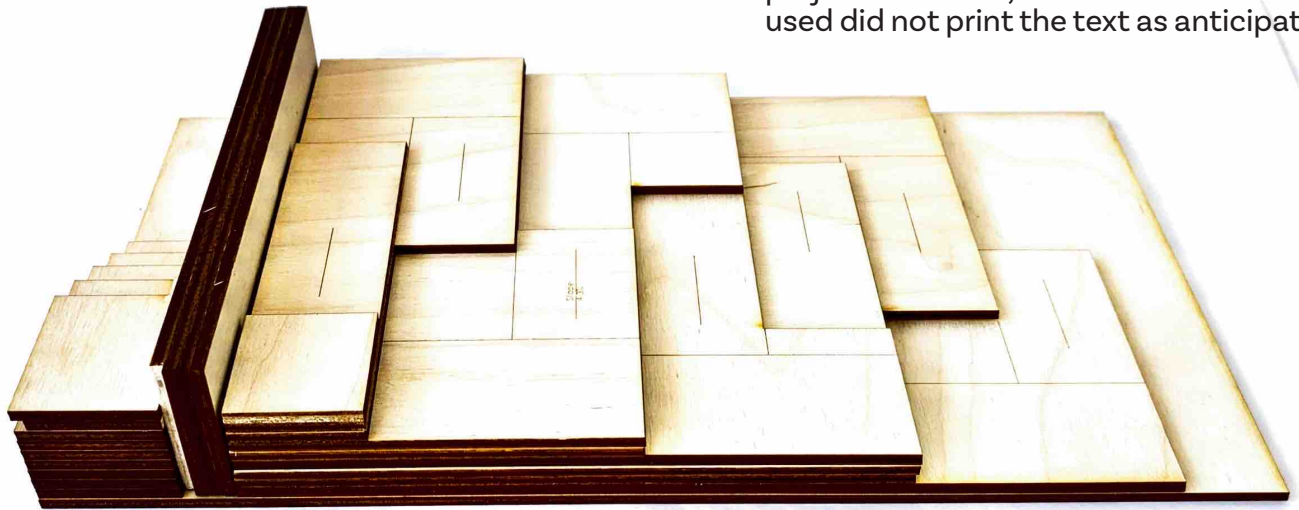


5 Section 4
 $\frac{1}{4}" = 1' - 0"$



1 Grading Plan
 $\frac{1}{4}" = 1' - 0"$

Perspectives of my final model for this project. However, the laser cutter that I used did not print the text as anticipated.



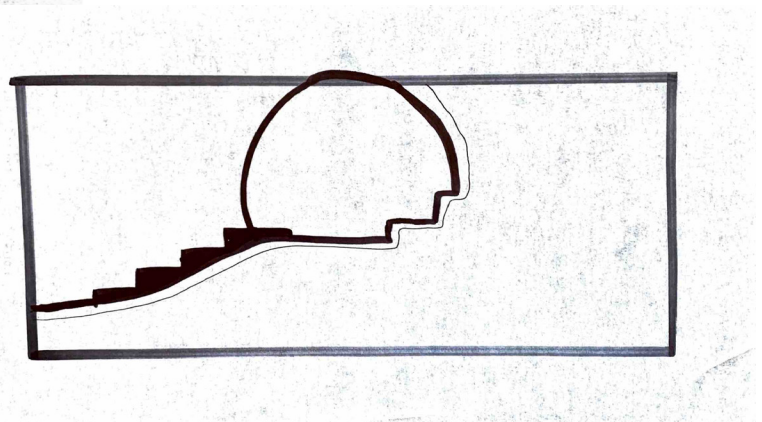
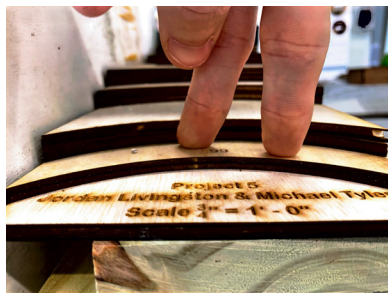
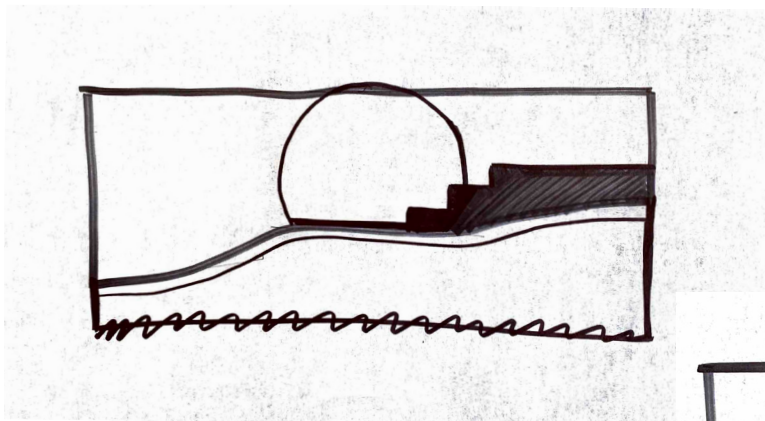
Project 5

Part_1

Using cardboard as topography and Plaster Paris, concrete or mortar, individually or as a team (3 max per team) will design and construct a scaled model of the proposed topography and wall as indicated on the corresponding plan and section. Be creative and include as much information as possible on the model. Study the plan and section so that you design and build the wall being as efficient as possible. We are looking for smooth surfaces and tight fitting slopes. Come prepared with questions Monday.

All models to be constructed at $\frac{3}{4}"=1'-0"$.

Jordan and I researched Walter Hood as our designer and chose to emulate his style of design to our model.



Jordan and I worked together on a concept where a moon door in the middle of the wall separates the pathway.

We, then, manipulated the topography in order to inset the steps along the slope where they traversed the wall as seamlessly and naturally as possible.



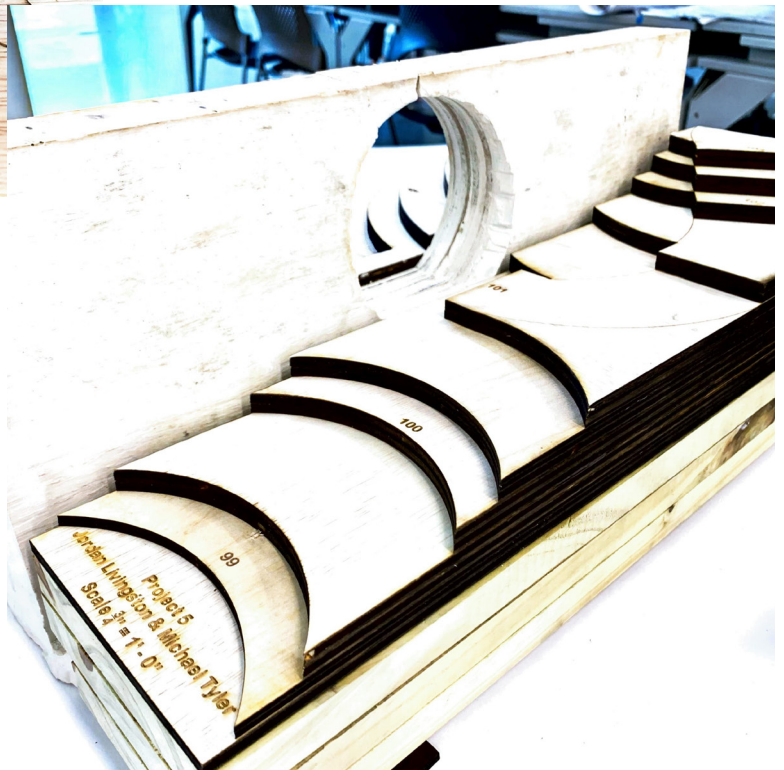
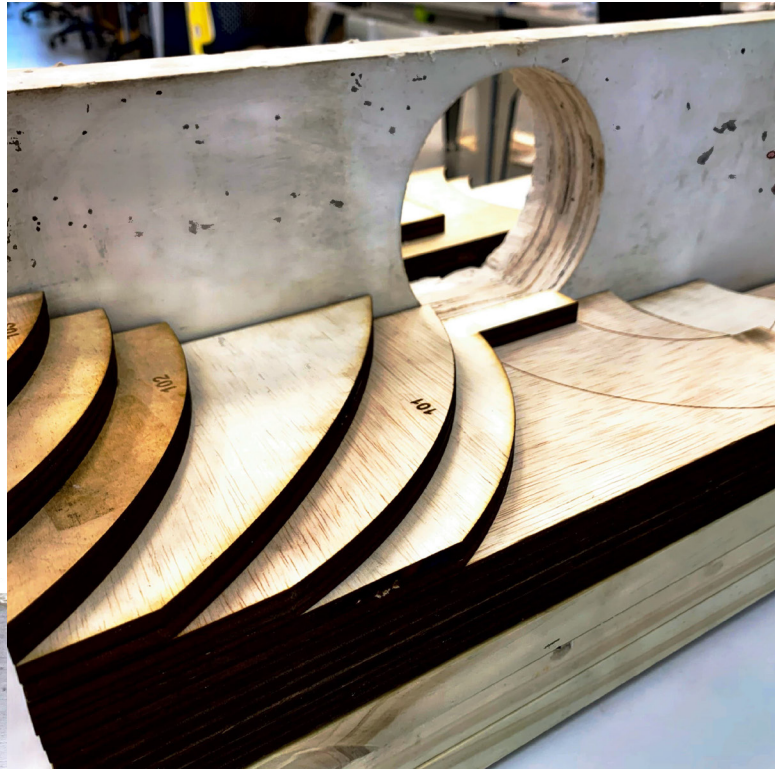


We ran into a few problems during the construction of the final model. Our first attempt at pouring the wall with acrylic leaked everywhere and fell apart. We, then, attempted to create the mold with balsa wood.



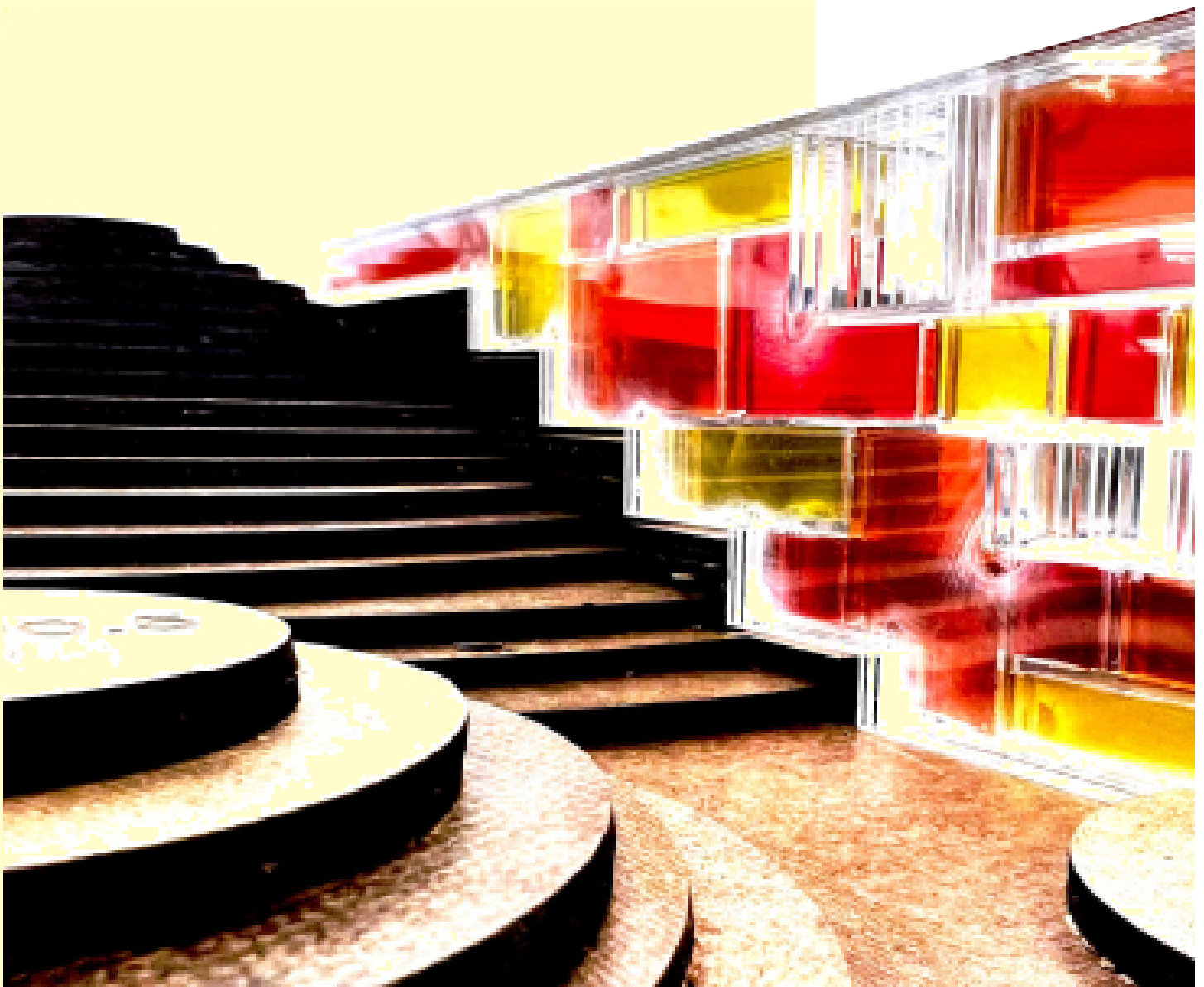
In retrospect, the pour would have been more effective if done with multiple different molds that fit together.

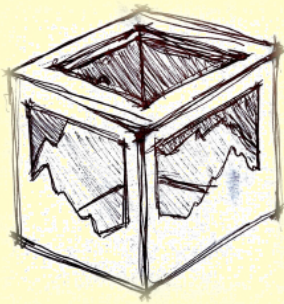
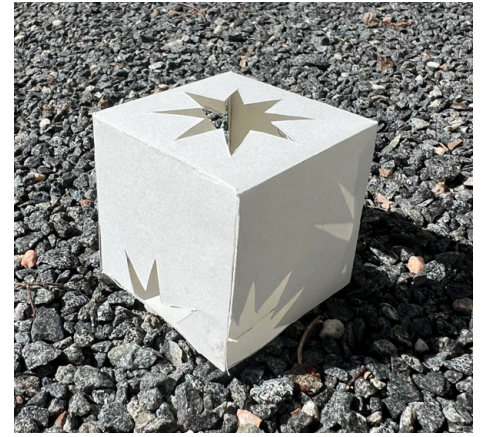
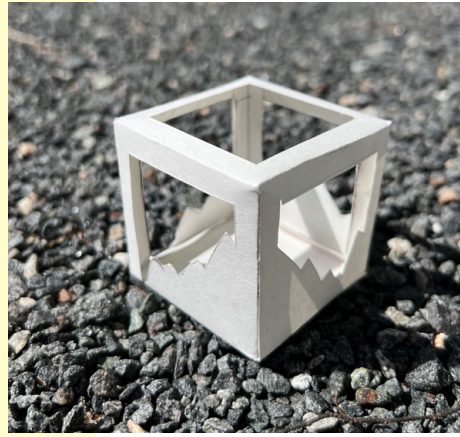
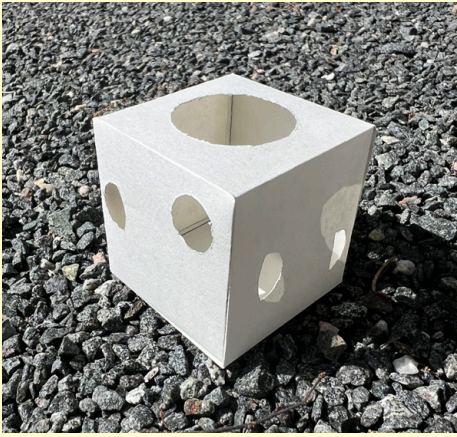
The moon door sits very nicely where the pathway moves through the space. Some mold grew on the actual plaster and gave the wall an interesting texture.



Overall, this was a very interesting model of a very interesting topographic condition.

PORTFOLIO



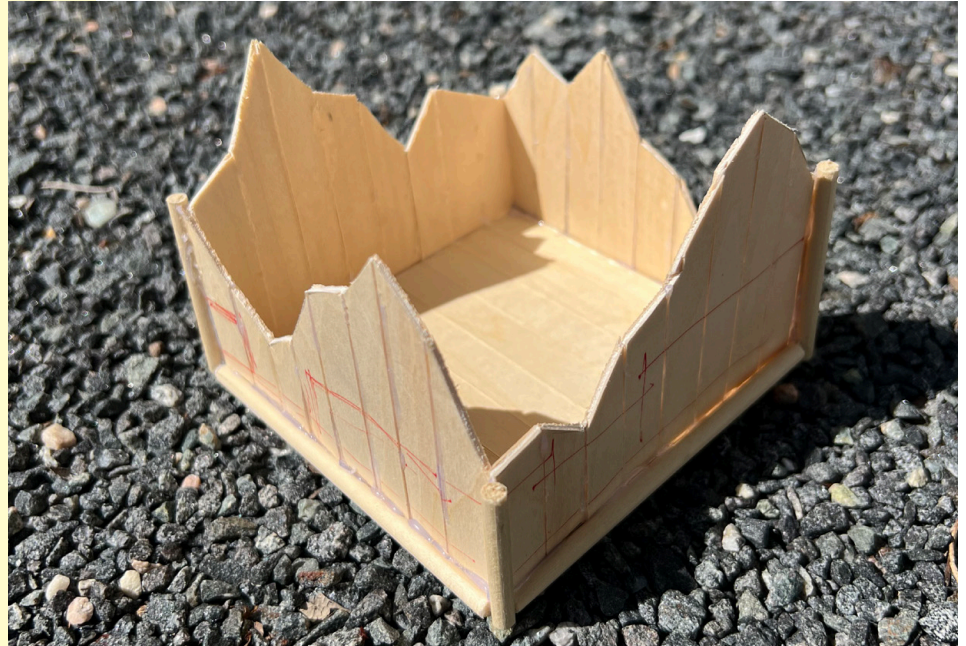


PROJECT 1: LUMBER PART 1

This project was to imagine three concepts, each to theoretically be built out of dimensional lumber: post, beam, joist, decking, slat, etc. Then develop three study models made of card stock that illustrate the character of the concepts at $1/4" = 1'-0"$.

PART 2

The second phase of this project was to construct a final scaled model of your structure using balsa or basswood at $1/2" = 1'-0"$



PROJECT 2: CASTING

PROJECT STATEMENT:

Using plaster of paris, this project aimed to prepare 3 different casts of found objects. Each cast was to be able to be placed on a 4" x 4" sheet of paper. As objects were selected to be cast, the concepts of volume, mass, surface texture, shape, material, and an object's ability to be released from the cast were important to consider.





PROJECT 3: TRUE TO FORM PART 1

PROJECT STATEMENT:

This project was to design and construct a formwork to receive a 4" x 4" x 4" plaster cube. The goal was to be sure that the formwork is rigid, stable and strong enough to undergo the "pour" and curing process. The form should not have warped, bended, stretched or shrank. Close attention was to be paid to the material of the form, any liner, or how the form responds to the plaster with the intention to be able to remove the form after it cures.



PROJECT 3: TRUE TO FORM

PART 2

PROJECT STATEMENT:

Using the same 4" x 4" x 4" form cube cast, this phase of the project adjusted the formwork to create three new models.

These models included a negative space model, within the framework of the 4" x 4" x 4" cube. That is, there was a created void within the cube itself through manipulation of the formwork. To create this cube, a solo cup was placed in the mold as the cube was being cast. Upon removal of the cup, the plaster broke apart in a compelling manner that speaks to the negative space of both the missing cup and remaining cube as well.

The second cube of this phase was an additional 4" x 4" x 4" cube that has a texture embedded onto the surface of the cube. This model was not to be easy to repeat and replicate in the future. The texture cube was created using a combination of orange peels and pencil tracings on the cube as it was still casting.

Lastly, the third cube was designed to have a function. The function for this cube was to be an abstract pen holder for desks and workspaces.



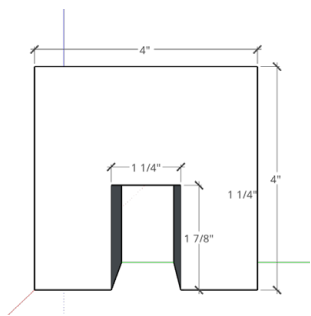


PROJECT 3: TRUE TO FORM: PART 3

PROJECT STATEMENT:

This final phase of the project was to choose one of the three cubes and develop that concept. This aimed to fine tune how the form is built to maximize craft, precision and execution of the work. This model was created to exploit the concept of negative space using different rectangular prisms to create the spaces in the casted plaster.

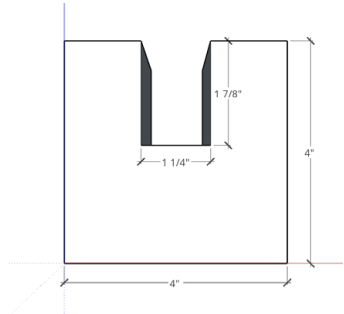
1



ELEVATION 1

Scale: 1/2" = 1'0"

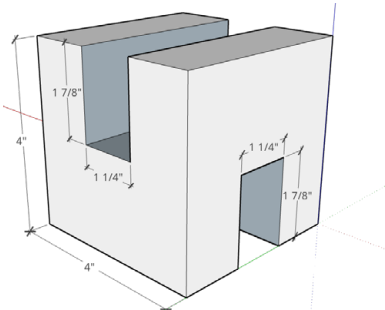
2



ELEVATION 2

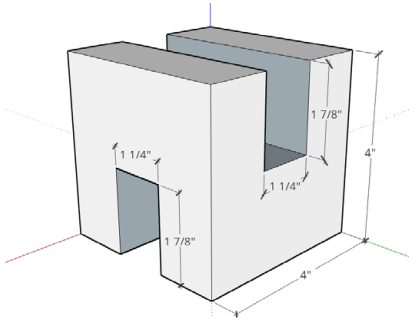
Scale: 1/2" = 1'0"

3



AXONOMETRIC VIEW 1

4



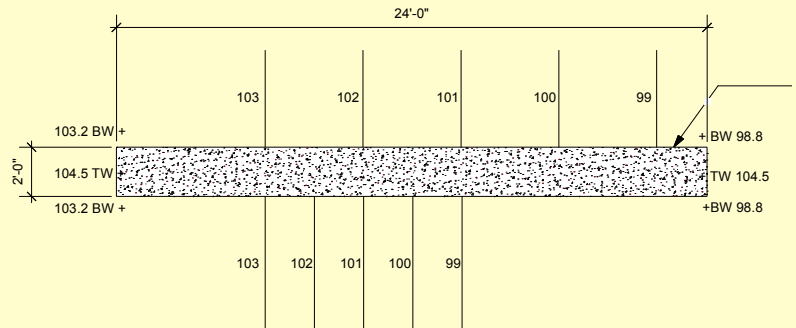
AXONOMETRIC VIEW 2

PROJECT 4: INTEGRATED SLOPES

PART 1

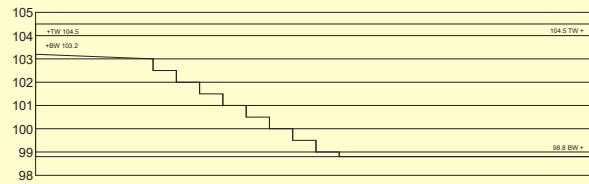
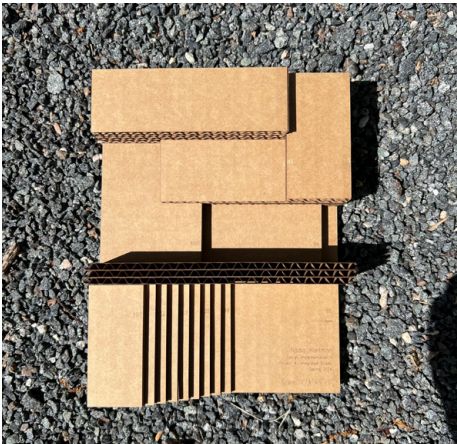
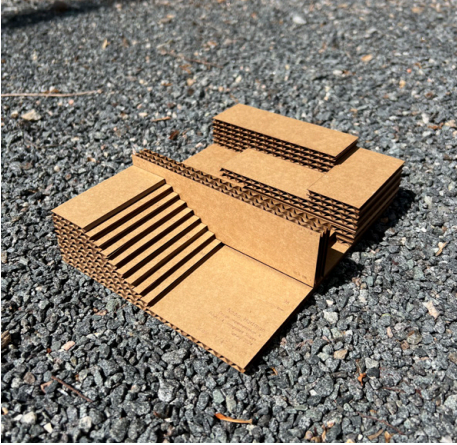
PROJECT STATEMENT:

Using cardboard, the purpose of this project was to construct a model of the proposed topography and wall as it coordinates with the topographic plan. The model was to be constructed at $1/4" = 1'-0"$ scale.



PROJECT 4: INTEGRATED SLOPES

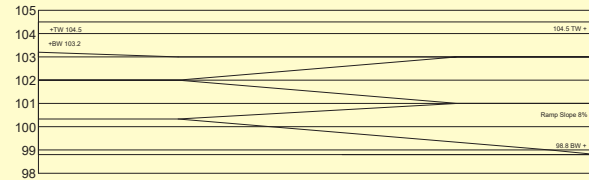
PART 2



1

SECTION 1: STAIRS

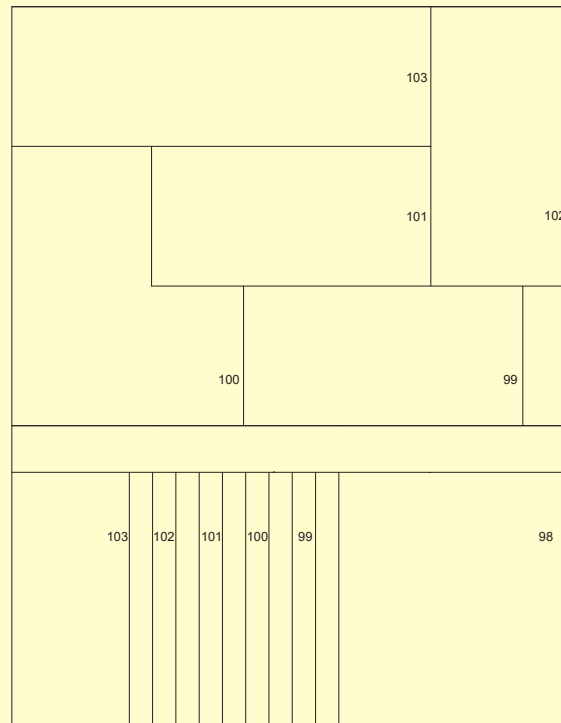
Scale: 1/4" = 1'-0"



2

SECTION 2: RAMP

Scale: 1/4" = 1'-0"



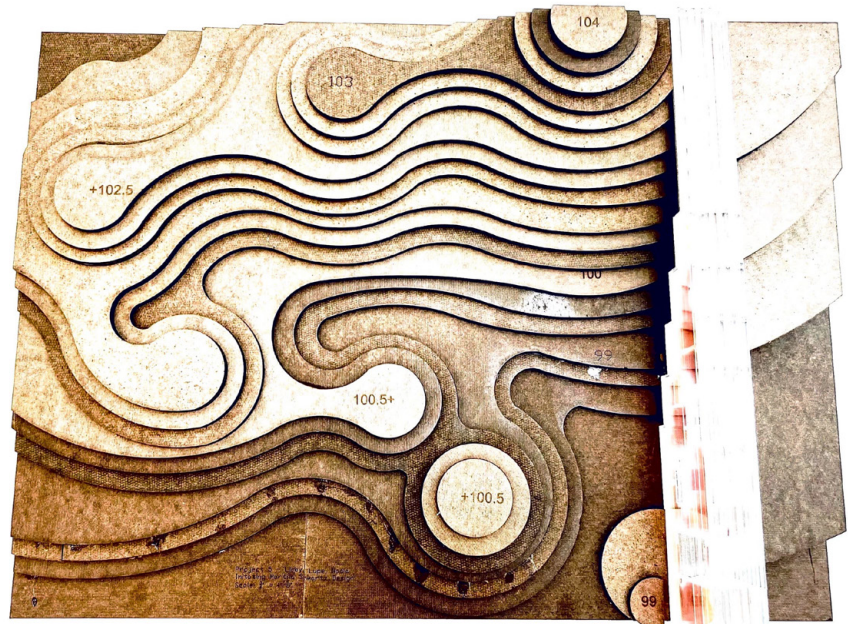
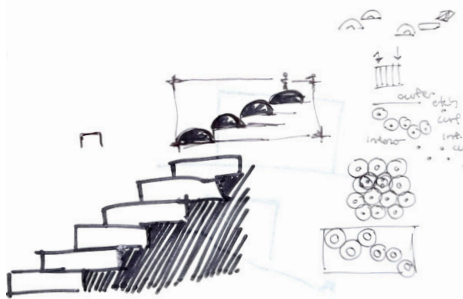
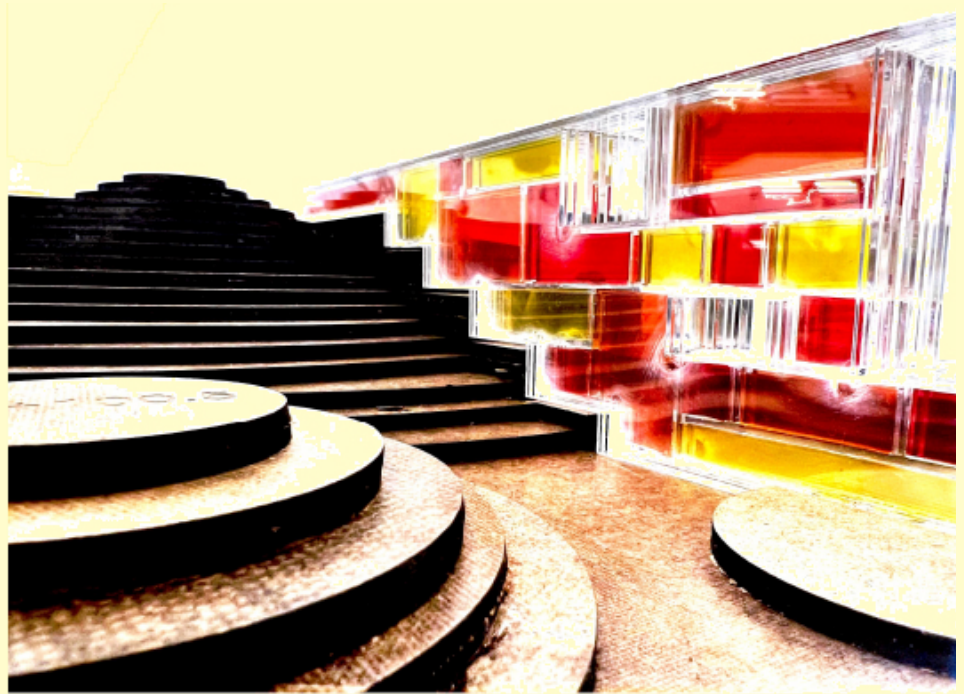
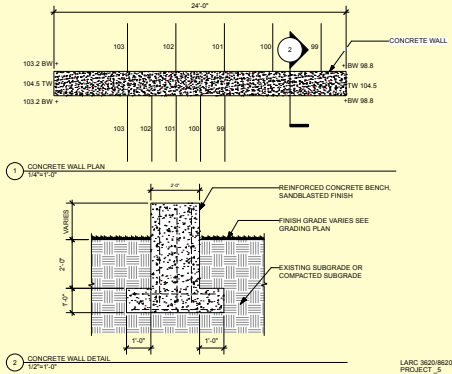
3

PLAN

Scale: 1/4" = 1'-0"

PROJECT STATEMENT:

The second phase of this project was to design and construct a model solution that incorporates a set of steps that will negotiate the grade change between the proposed top of slope and bottom of slope. Steps shall be a maximum of 6" deep and minimum of 12" wide. Additionally, a ramp was to be incorporated which negotiates the proposed top of slope and bottom of slope and meets standard ADA standards for an ADA accessible ramp. (8.3% max slope for 30'). All models, plans, and sections are scaled at 1/4" = 1'-0".



PROJECT 5: FINAL PROJECT

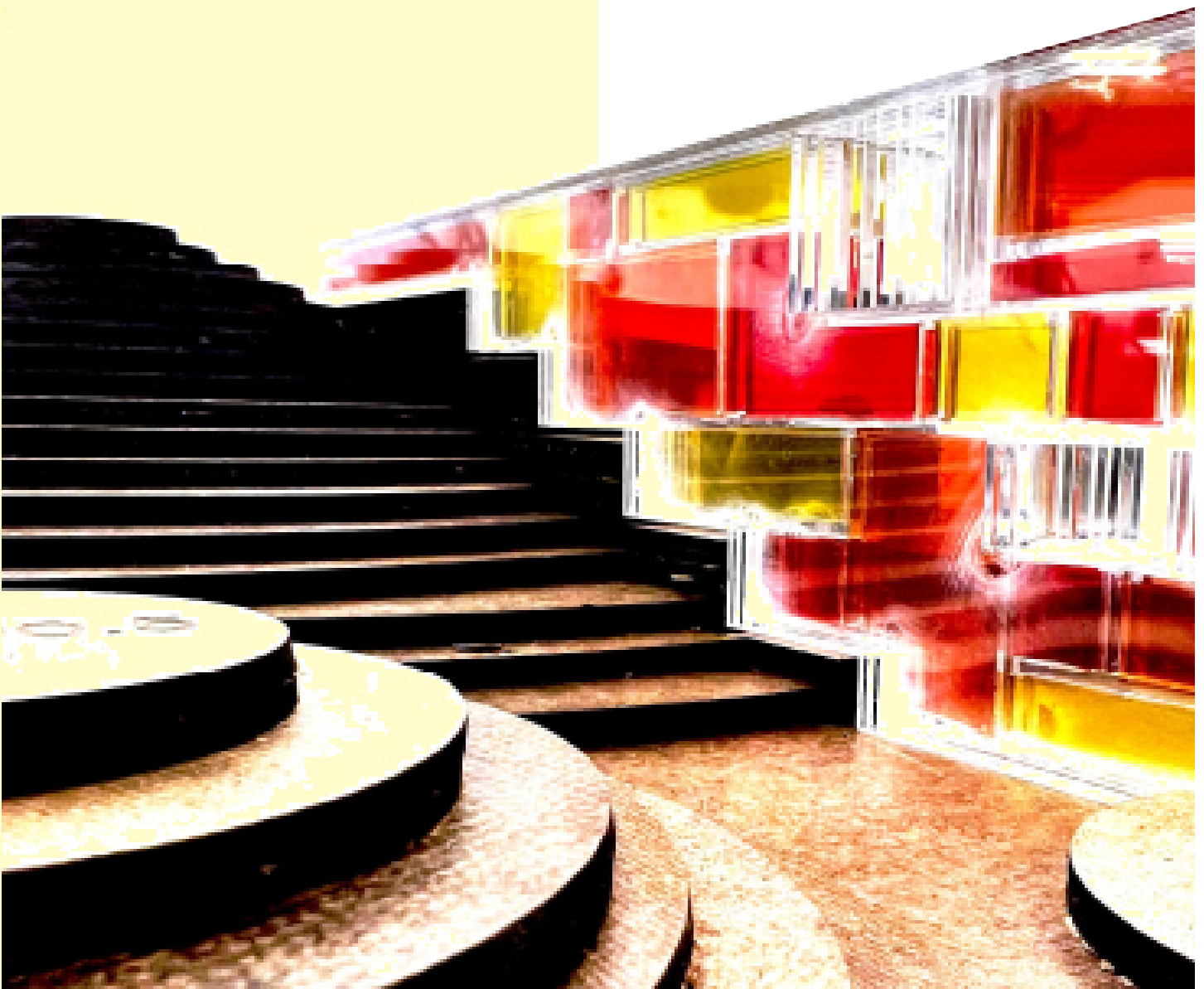
PROJECT STATEMENT:

This As a team of three, this project was to use cardboard as topography as well as Plaster of Paris, concrete or mortar to design and construct a scaled model of the given proposed topography and wall as indicated on the corresponding plan and section. This encompassing project encouraged creativity as well as inspiration from selected reknowned landscape architects for the design. For this project, the design was loosely inspired by the designer of the famous "Bagel Garden" as well as other well known designs, Martha Schwartz. The model scale was constructed at $\frac{3}{4}" = 1'0"$.

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CLEMSON UNIVERSITY
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DESIGN IMPLEMENTATION II

SPRING 2024



Design Implementation II Portfolio

Spring 2024
Jordan Livingston

Project 1

Project Statement:

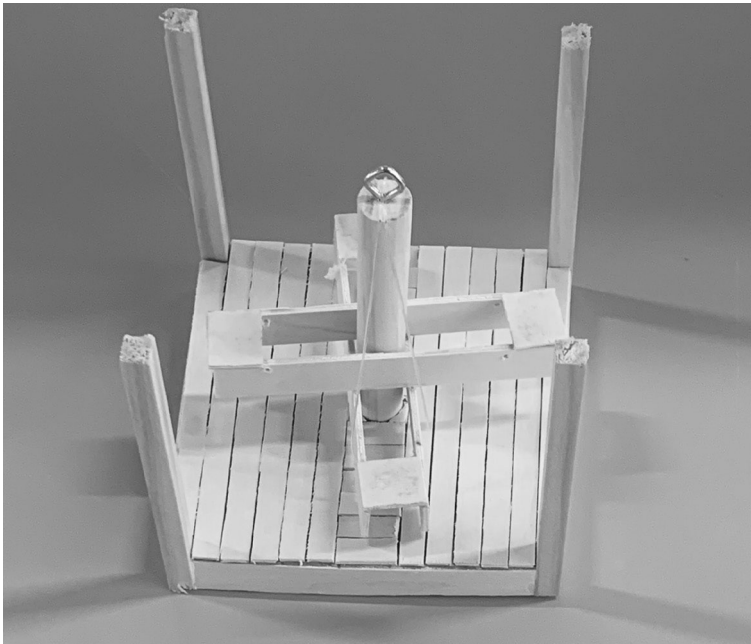
Part 1

- Select one of your three $\frac{1}{4}$ scale conceptual models to develop
- Reimagine your concept being constructed out of dimensional lumber: post, beam, joist, decking, slat, etc.
- Develop a new study model (card stock) that illustrates the character of your reimagined wood structure at $\frac{1}{2}" = 1'-0"$. [larger]
- By hand, draft plans, sections, and elevations of the developed structure at $\frac{1}{2}" = 1'-0"$. [use 8.5" x 11" sheet for each detail]

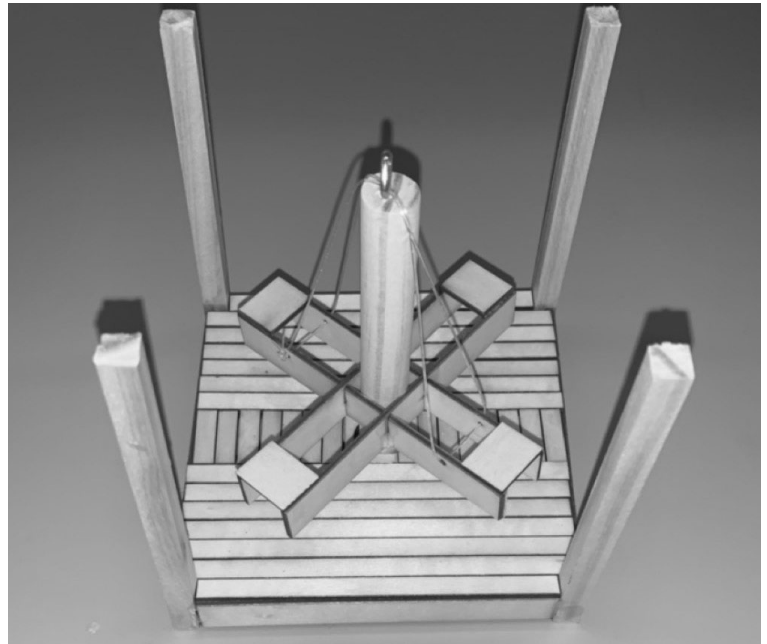
Part 2

- Construct a final scaled model of your structure using balsa or basswood at $\frac{1}{2}" = 1'-0"$
- Draft digital plans, sections, and elevations of the developed structure at $\frac{1}{2}" = 1'-0"$. [use 8.5" x 11" sheet for each detail]

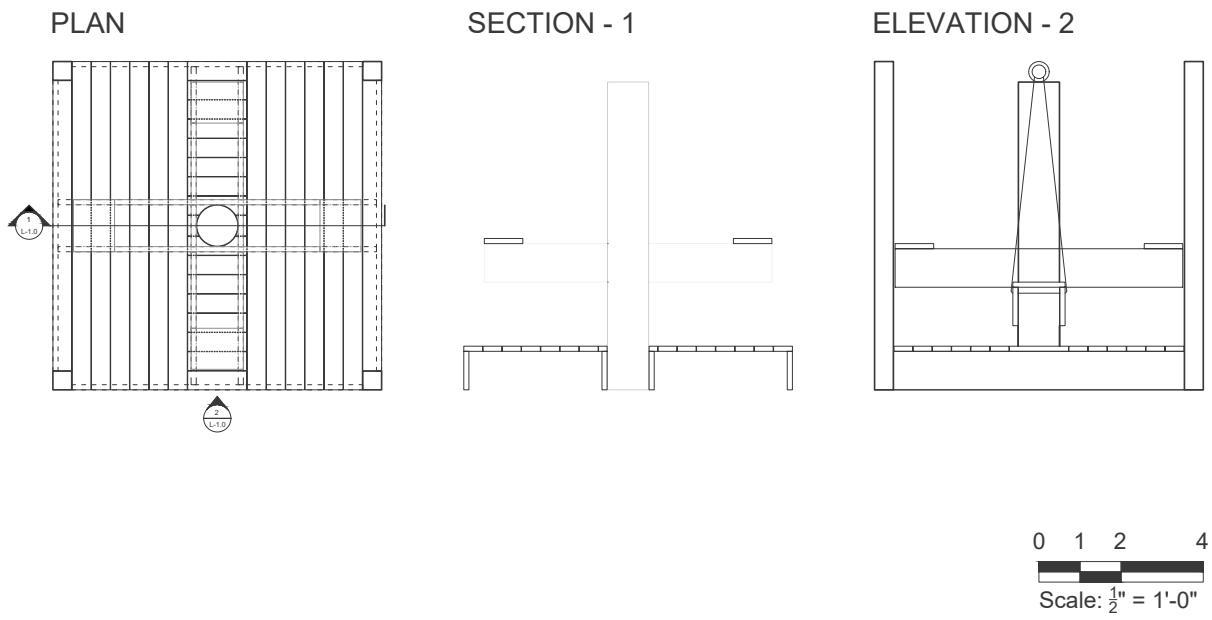
Part 1



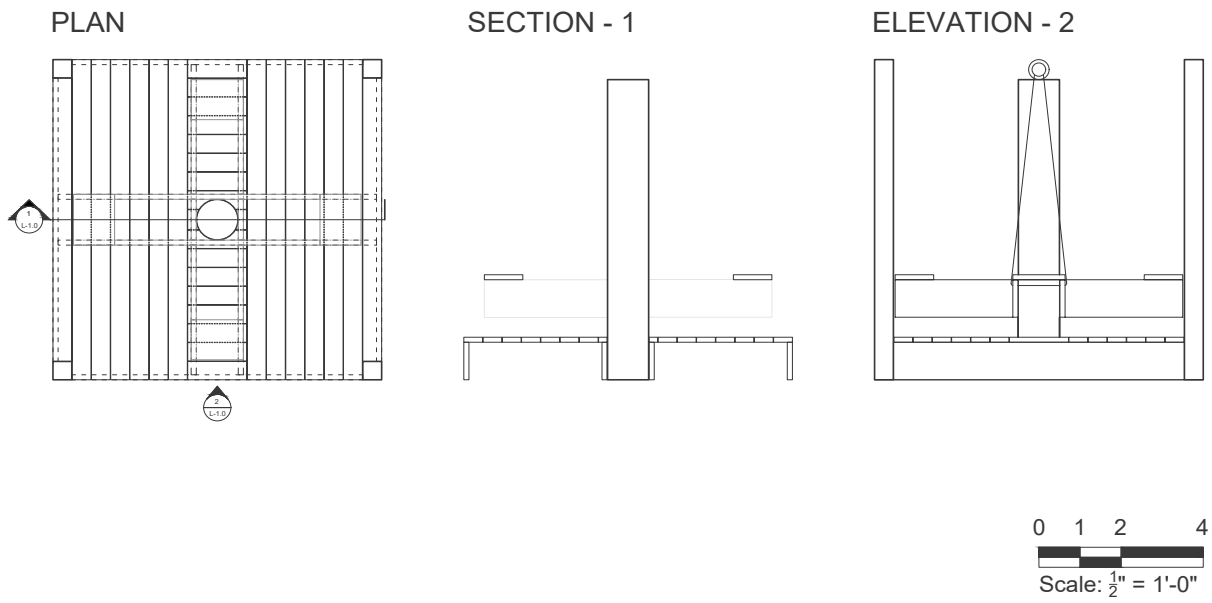
Part 2



Part 1



Part 2



Project 3-True to Form

Project Statement:

Part_1

Design and construct a formwork to receive a 4" x 4" x 4" plaster cube. Be sure that the formwork is rigid, stable and strong enough to undergo the "pour" and curing process. Forms should not warp, bend, stretch or shrink. Pay close attention to the material of the form, any liner, or how the form responds to the plaster as it cures. You want to be able to remove the form after it cures. Be sure the plaster has completely cured (is solid) prior to the start of class. We are looking for precise dimensions, smooth surfaces and crisp, square corners.

Part_2

Using the same 4" x 4" x 4" form or a new and refined one, adjust the formwork to create a negative space, within the 4" x 4" x 4" cube. That is, you will create a void within the cube itself through manipulation of the formwork. The negative space may be orthogonal (right angles). This will allow it to be modeled and measured with accuracy. You may also elect to use a free form or organic shaped negative space. The goal is to show control over the design, form and construction process. Keep your forms simple, remember to have an exit strategy that will allow the unwanted form pieces to release with ease from the material after it cures.

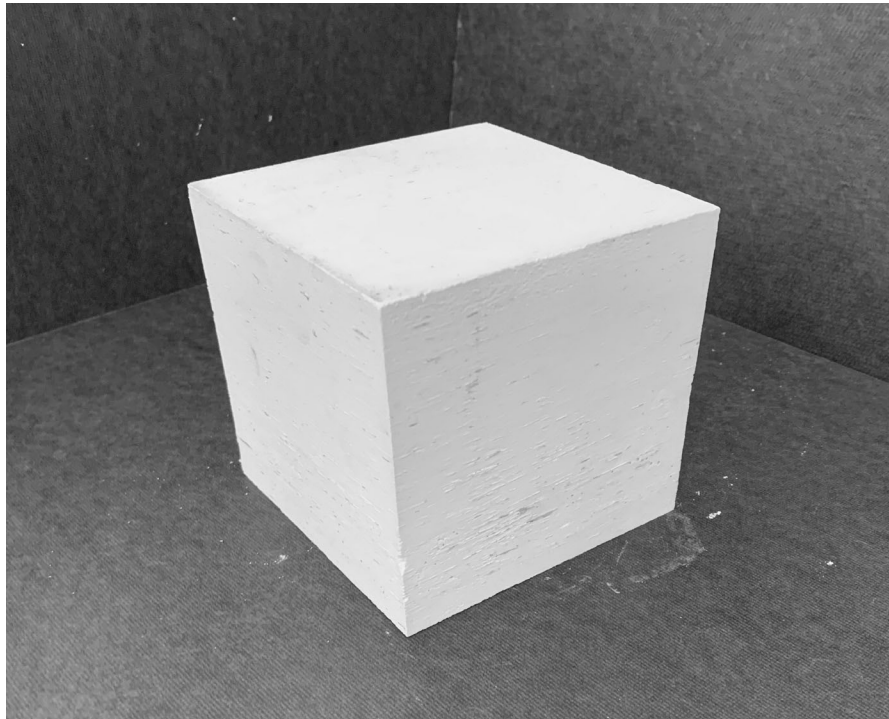
Create and design an additional 4" x 4" x 4" cube that has a texture embedded onto the surface of the cube. This should be easy to repeat and replicate in the future.

Lastly, design a third cube that has a function. That is, it may be a structure that can be occupied, it may be a device that holds or cradles another object. You determine the scale of the cube and how it is to be interpreted.

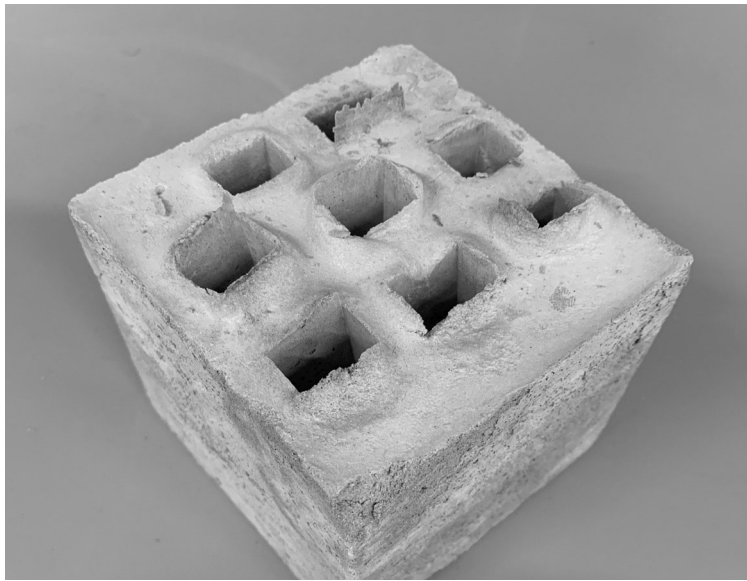
Part_3

Select one of the three cubes and develop that concept. Fine tune how the form is built to maximize craft, precision and execution of the work. Design a form strategy that is rigid and has a well thought out "exit strategy" for removing the form. You may consider using plaster of paris, mortar, concrete or experiment with a combination of the three. As part of your exploration and study, prepare a 3D model using the application of your choice. the 3D model should accurately resemble the finished product.

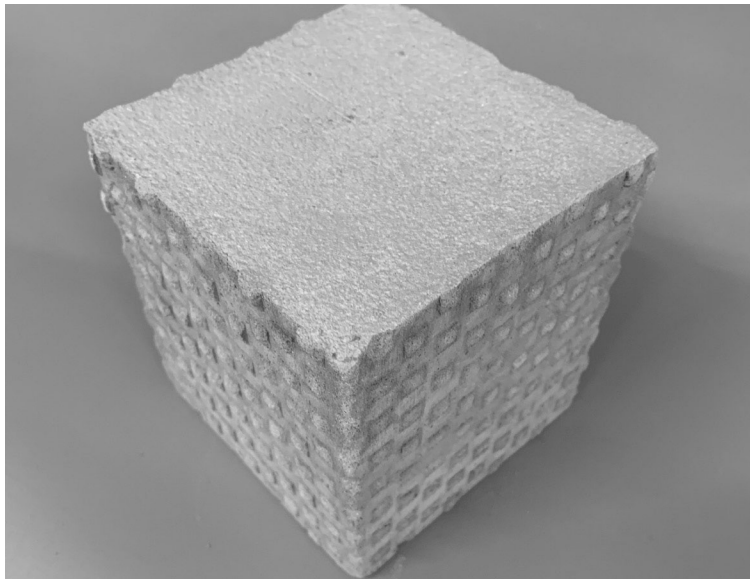
Part 1



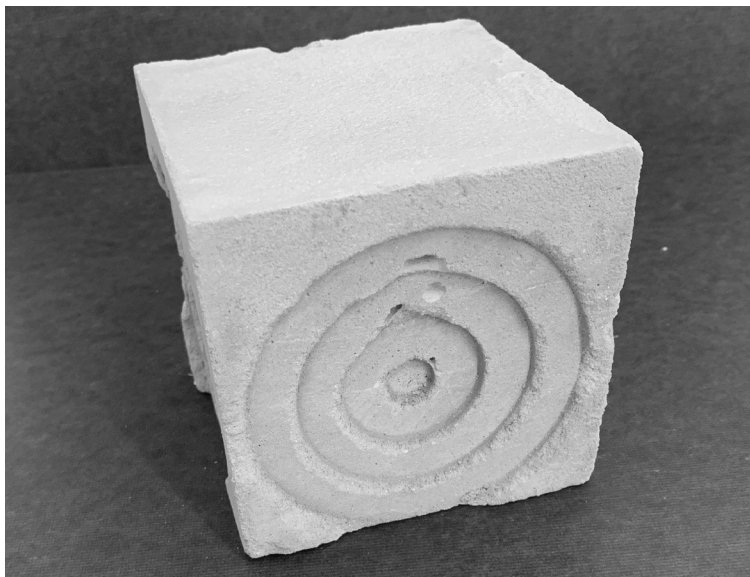
Part 2



Negative Space

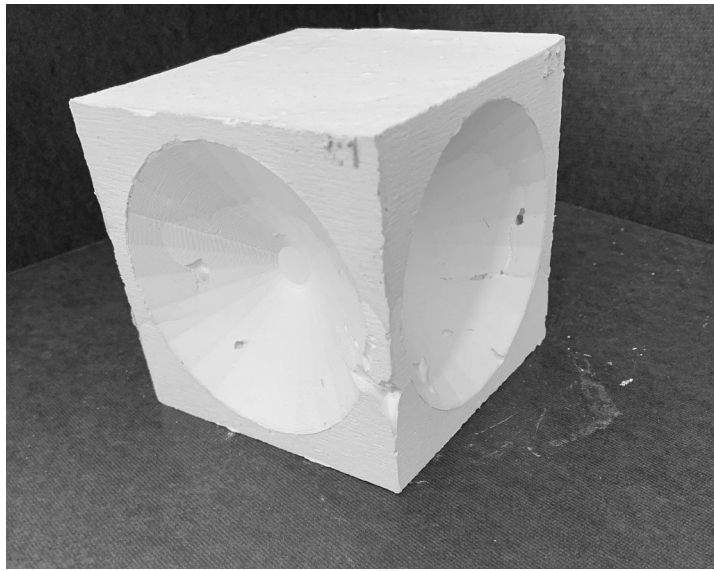


Texture

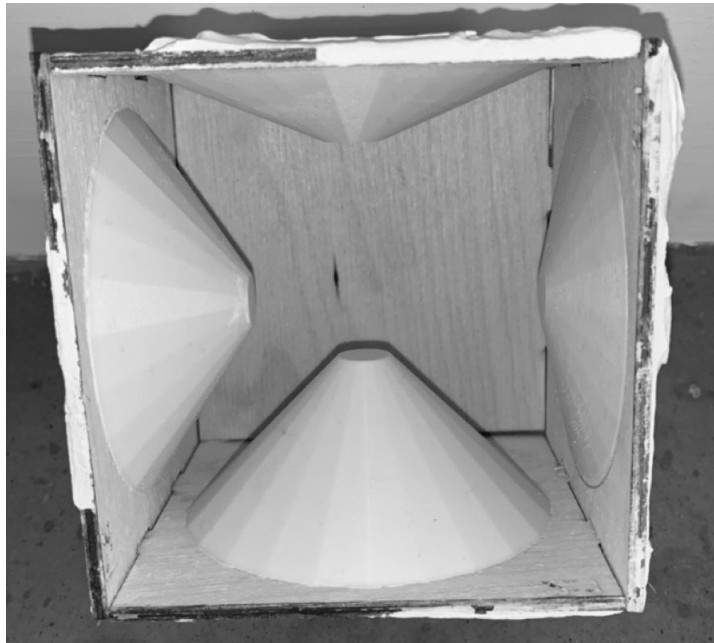


Function

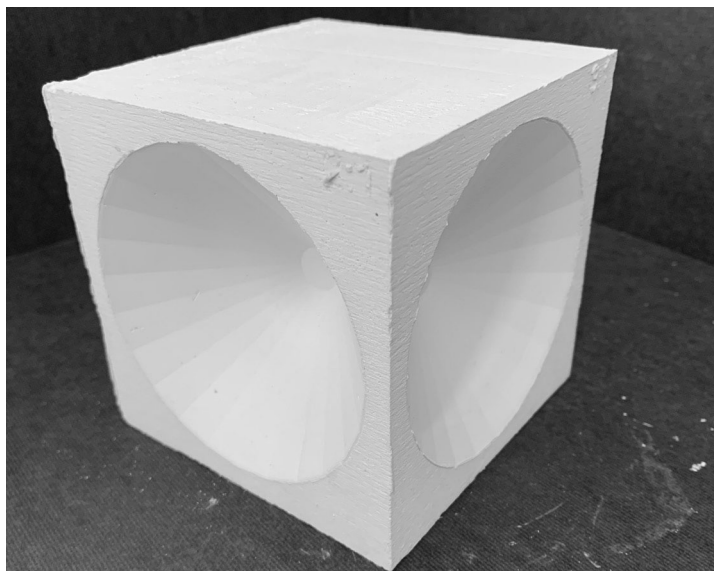
Part 3



First Attempt



Mold



Second Attempt

Project 4-Integrated Slopes

Project Statement:

Part 1

Using cardboard construct a model of the proposed topography and wall as it coordinates with the topographic plan. Include as much information as possible on the model. I.E. you may etch contour numbers, TW, BW, and slope arrows and indicators as necessary. If you wish to explore this exercise using the CNC machines you may. You may try 3D printing, but I do not recommend for this project.

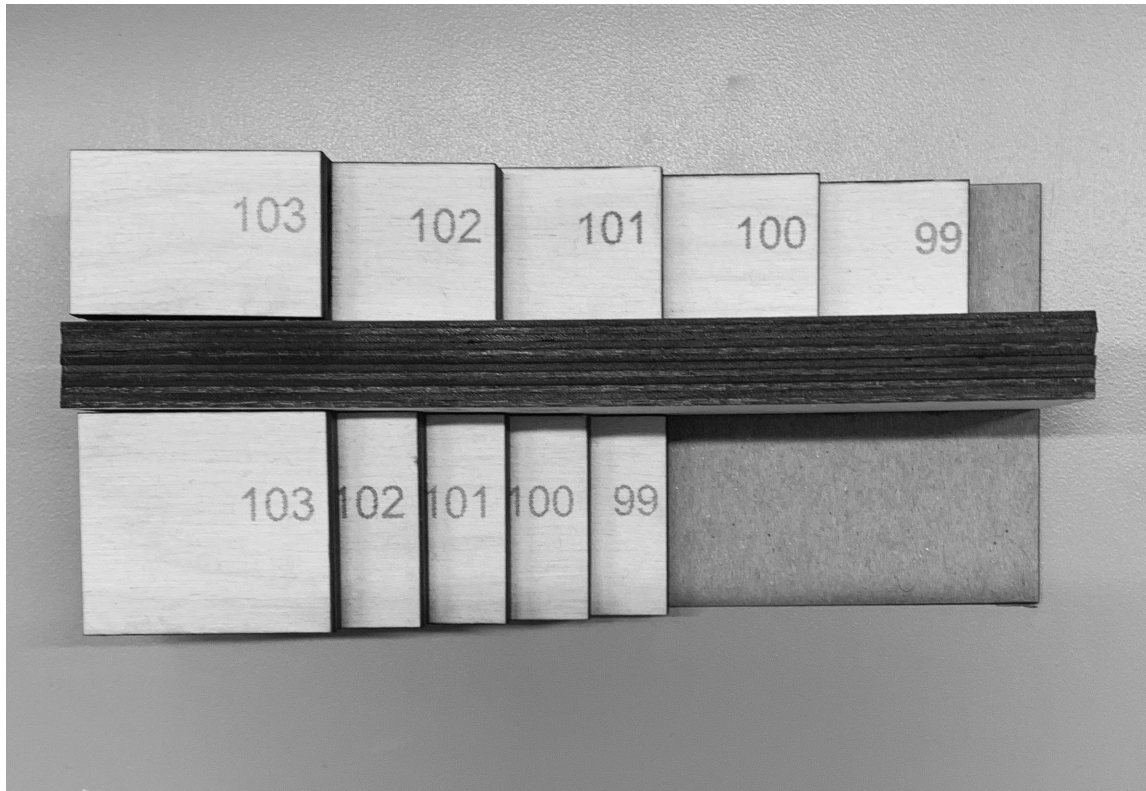
Model @ 1/4"=1'-0"

Part 2

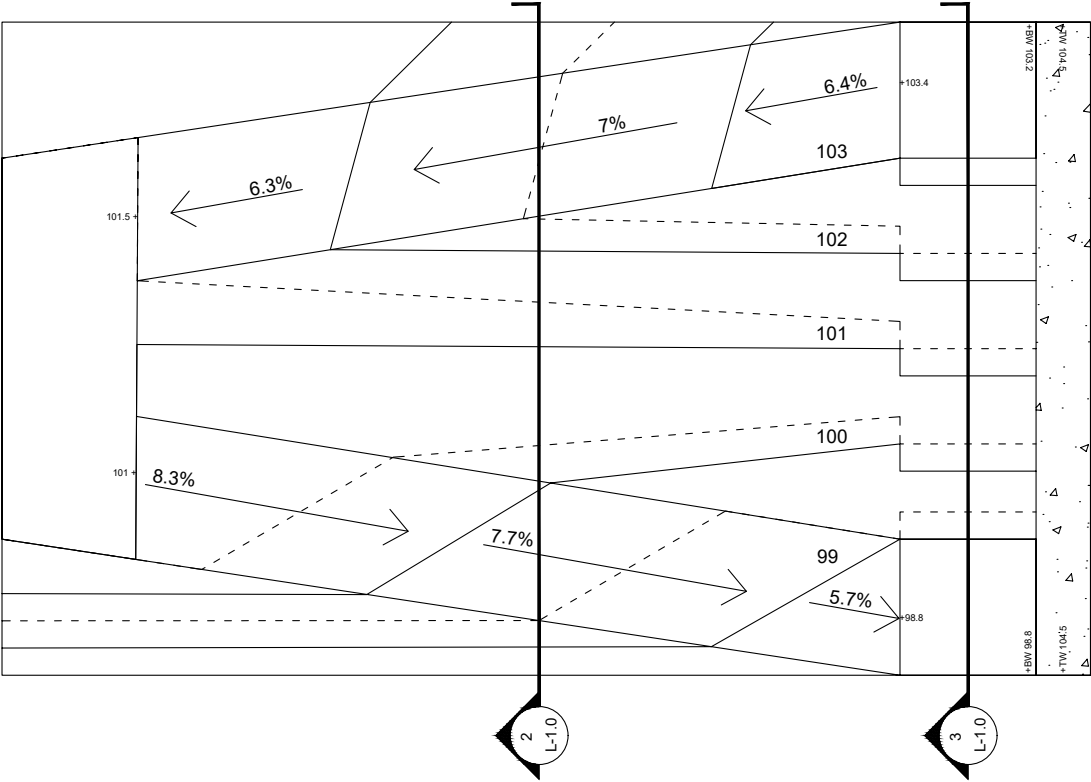
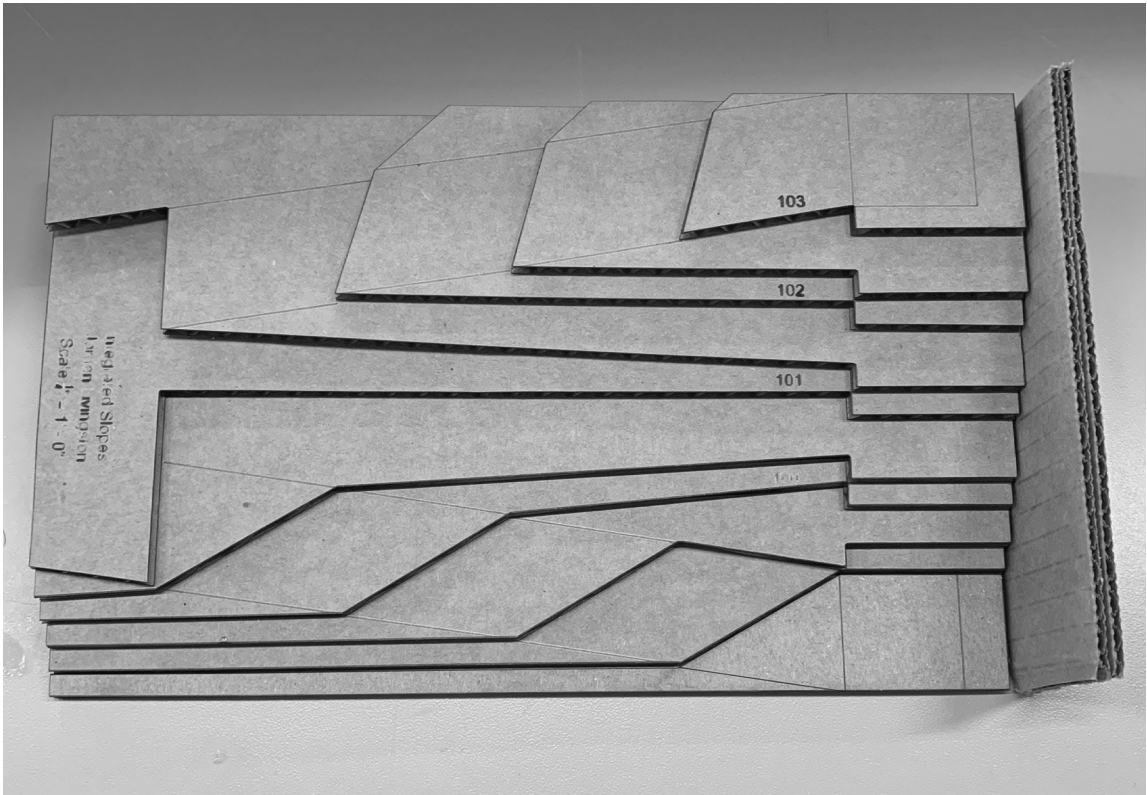
Using chipboard design and construct a model solution that incorporates a set of steps that will negotiate the grade change between the proposed top of slope and bottom of slope. Steps shall be a maximum of 6" deep and minimum of 12" wide. Additionally, incorporate a ramp the successfully negotiates the proposed top of slope and bottom of slope and meets standard ADA standards for an ADA accessible ramp. (8.3% max slope for 30')

Include Grading Plans and sectional studies for both the proposed step and ramp solution. Include all necessary spot elevations, top and bottom of wall annotation, top and bottom of ramp spot elevations and indicate the slope of ramp.

Part 1



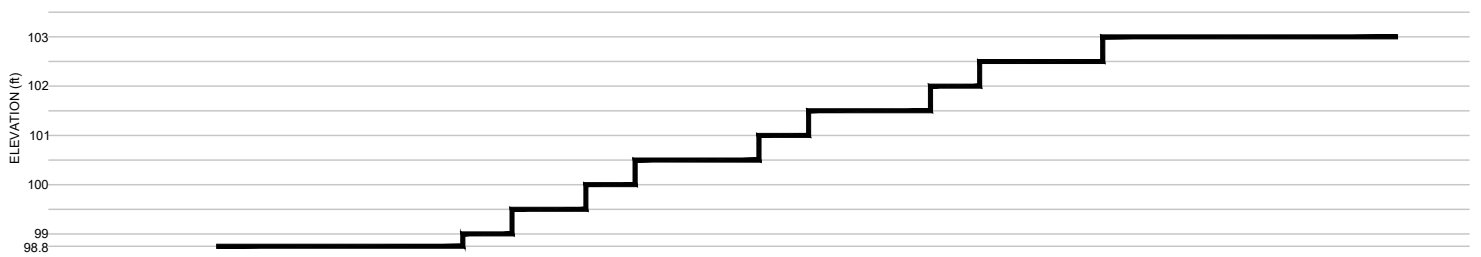
Part 2





2 Section - Ramp

Scale $\frac{1}{4}" = 1' - 0"$



3 Section - Stairs

Scale $\frac{1}{4}" = 1' - 0"$

Project 5

Project Statement:

Part_1

Using cardboard as topography and Plaster Paris, concrete or mortar, individually or as a team (3 max per team) will design and construct a scaled model of the proposed topography and wall as indicated on the corresponding plan and section. Be creative and include as much information as possible on the model. Study the plan and section so that you design and build the wall being as efficient as possible. We are looking for smooth surfaces and tight fitting slopes.

All models to be constructed at $3/4" = 1'-0"$.



