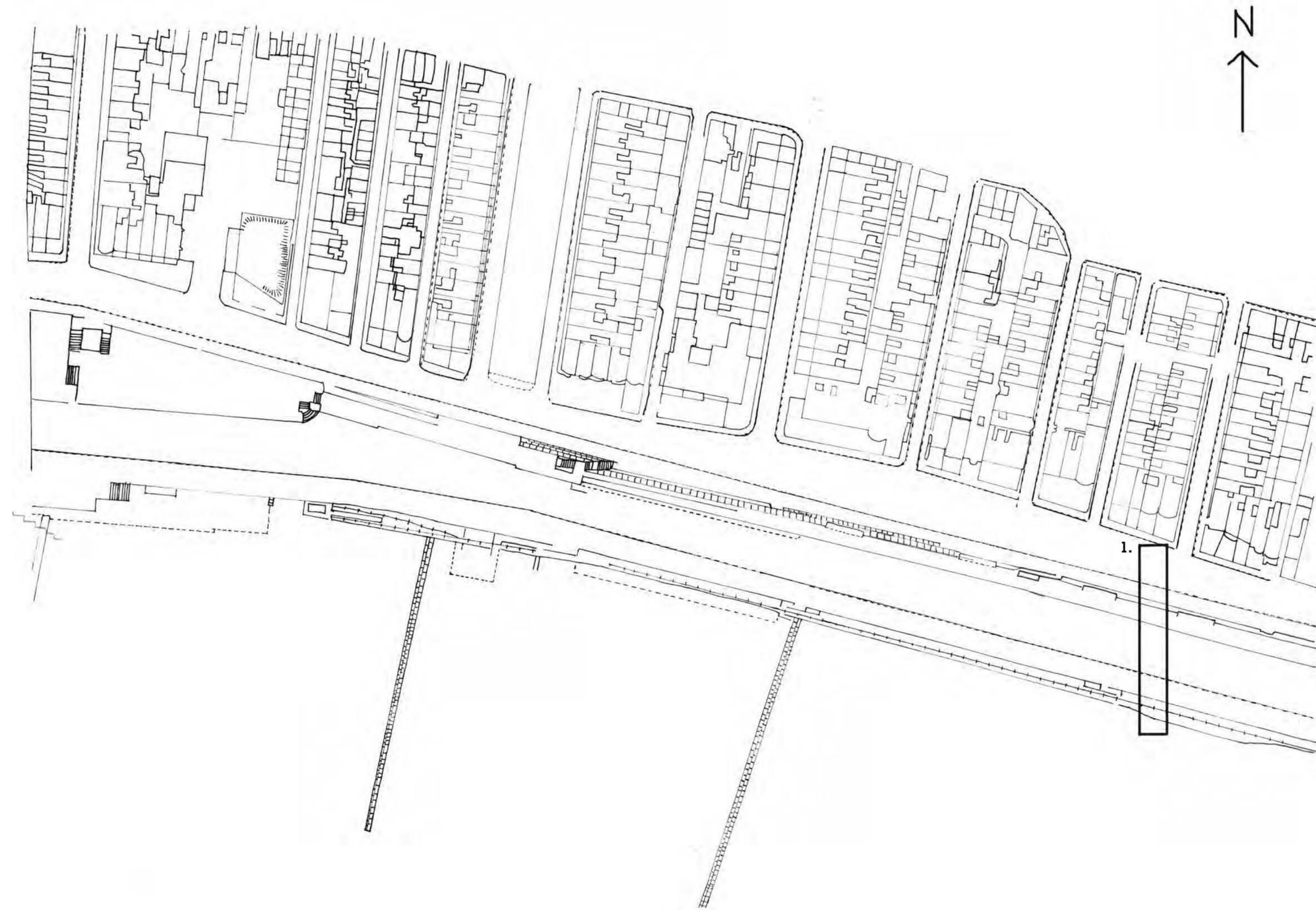




1:1250 Plan on A3.

Maderia Terrace and Kempton.

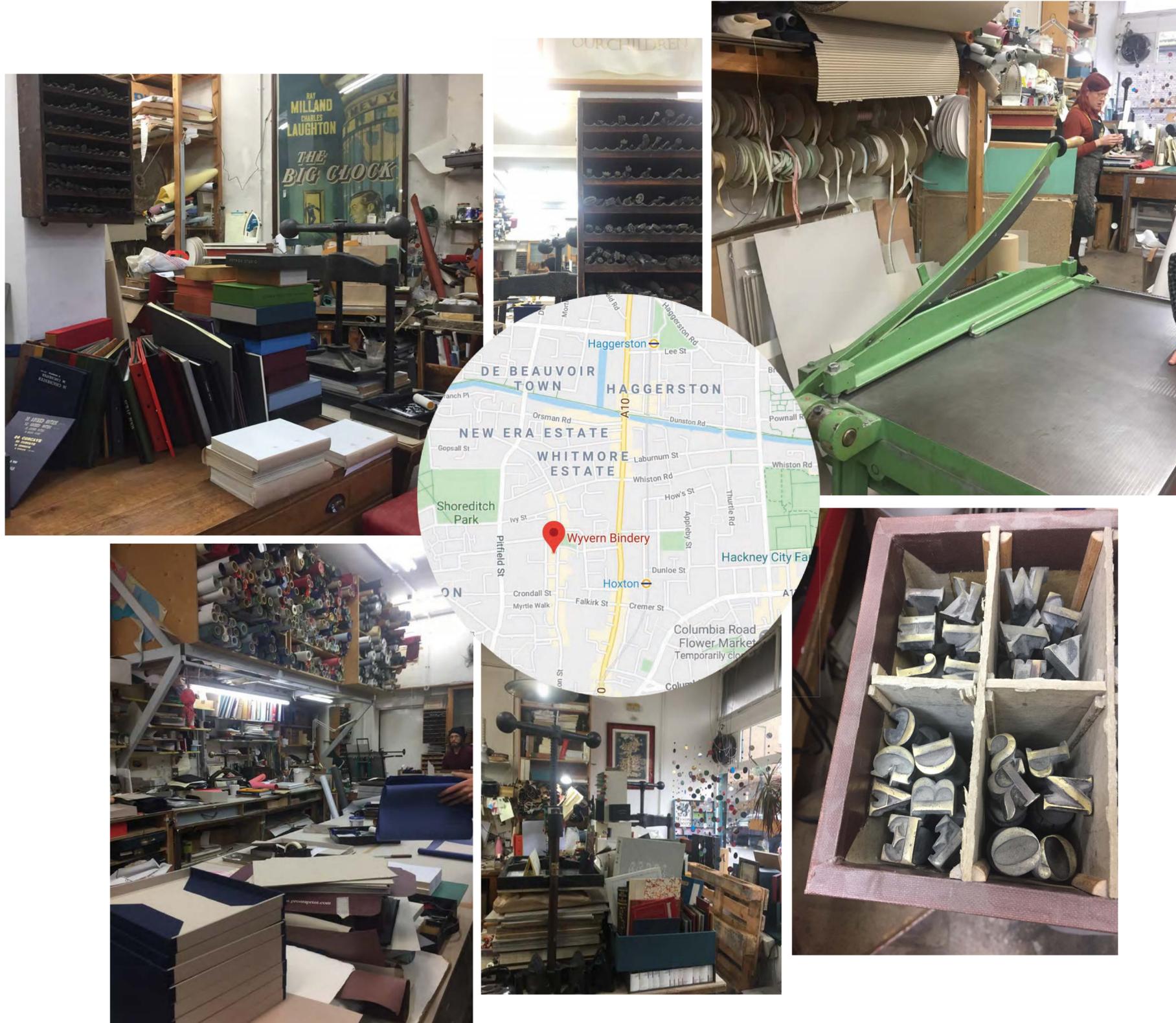


1. My section of site.



First Hand Research.

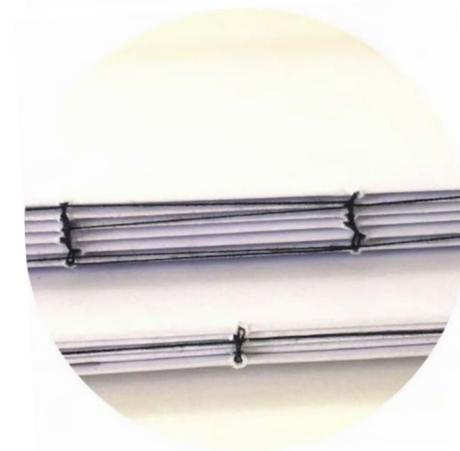
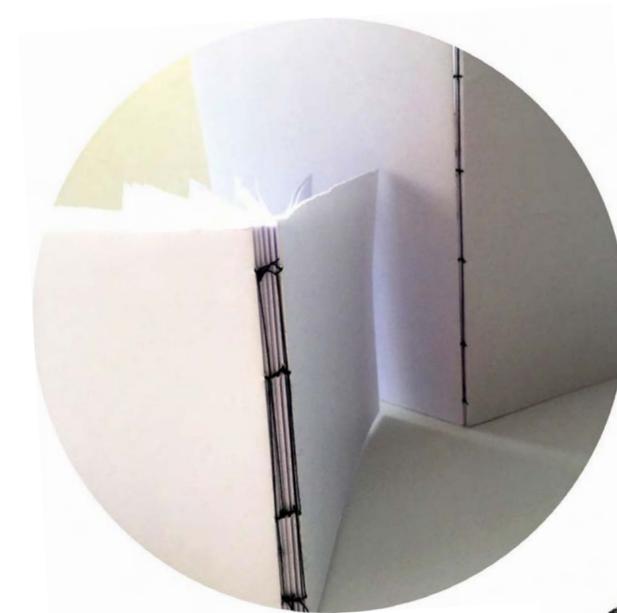
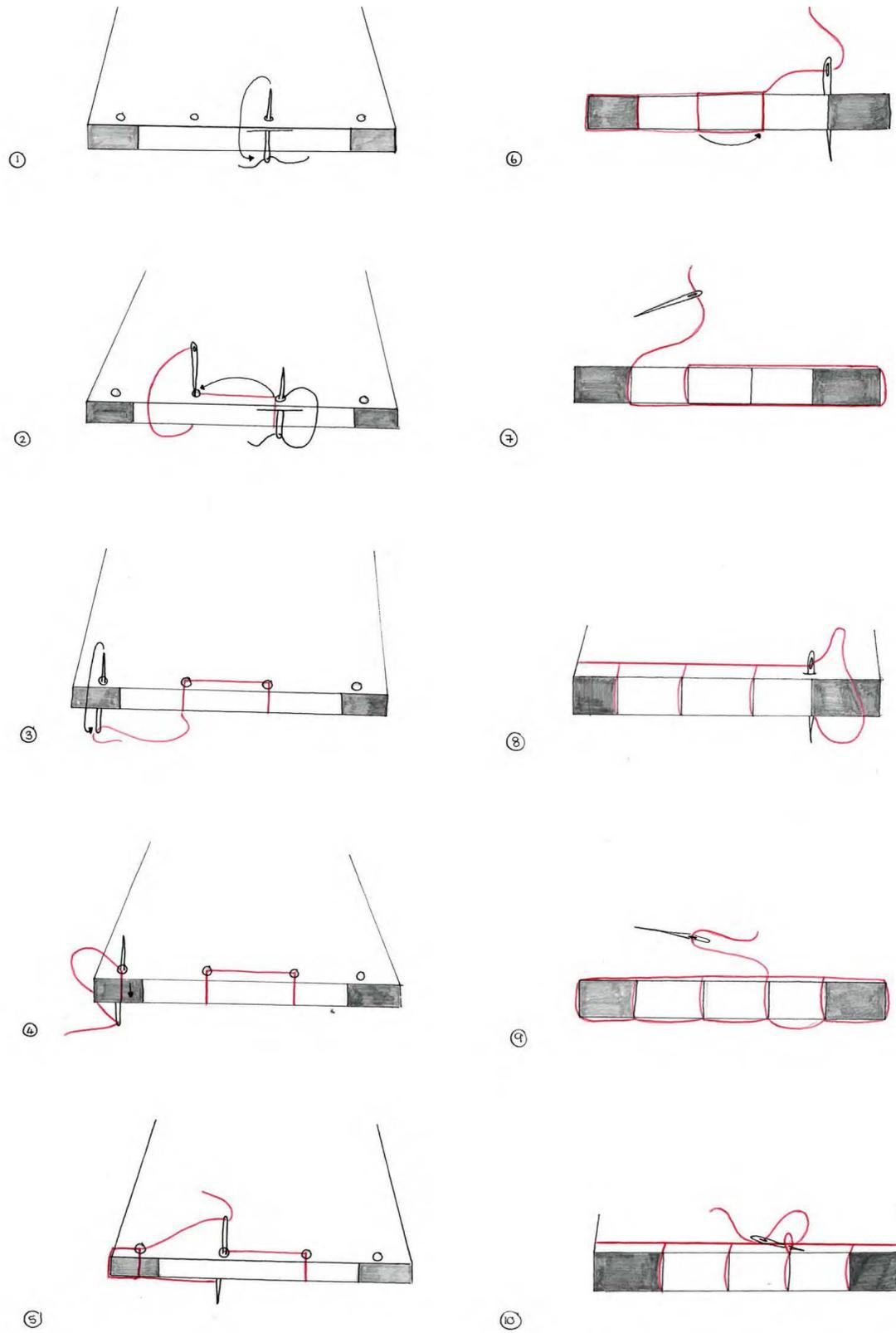
Wyvern Bindery.



Bookbinding can be dated as far back as Circa 100 BCE, however it has progressed a lot since then and we no longer do all the binding by hand. However, there are still bookbinders across the country who are keeping the more traditional techniques alive. Before visiting site, I wanted to get some primary research so I visited the Wyvern Bindery up in London. Upon entering the bindery, you get a sense of just how many different materials are needed in the process of bookbinding. They have hundreds of rolls of various cloths and leathers used to cover books, different types of paper, size stamps etc. It was an extremely informative trip, and gave me much more information about the type of storage/equipment I would need than any book could have.

# The Process of Japanese Book Binding.

## 'Yotsume Toji'



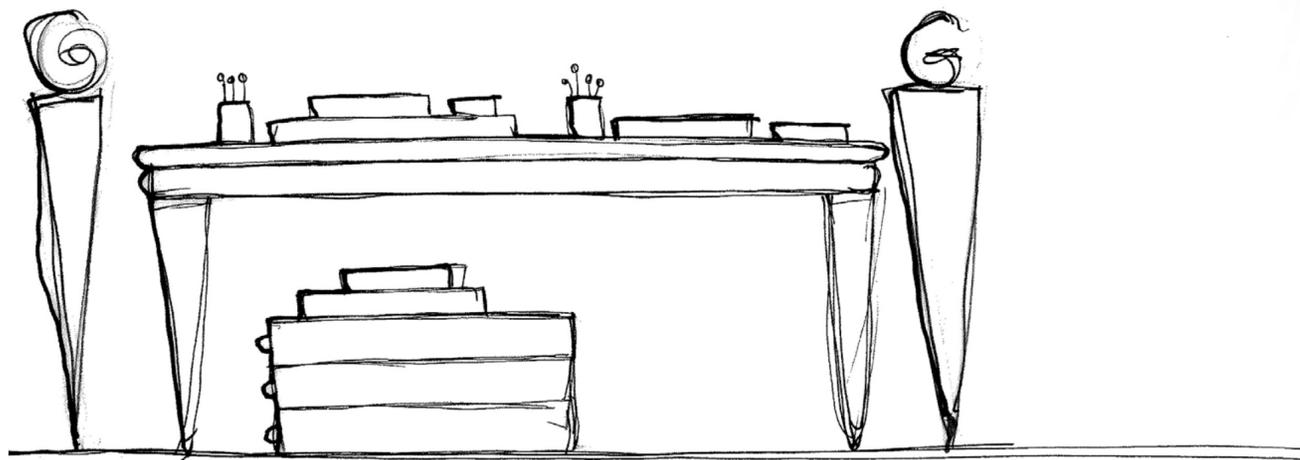
My attempt at Yotsume Toji.

Yotsume Toji, also known as 'Four Eye Binding,' is the most common type of Japanese binding as it requires the fewest materials. Traditionally to complete this process you need; Washi (traditional hand-made Japanese paper,) Bookbinding Needle, Binding Thread and a Board. Following the process to the left, I was able to bind my own A5 portrait and landscape books.

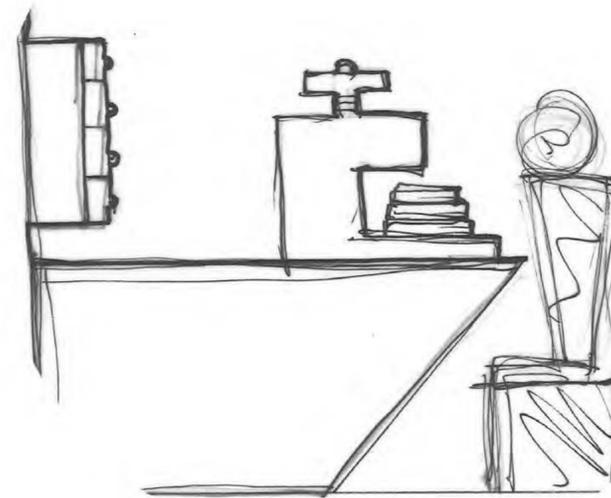
I found as I continued to follow the steps, I became much quicker. It was a very enjoyable experience seeing blank pieces of paper turn into something I could use for drawings and paintings relating to this project.

Section Sketches of Wyvern Bindery.

Main workbench.



Individual desk with desktop press.

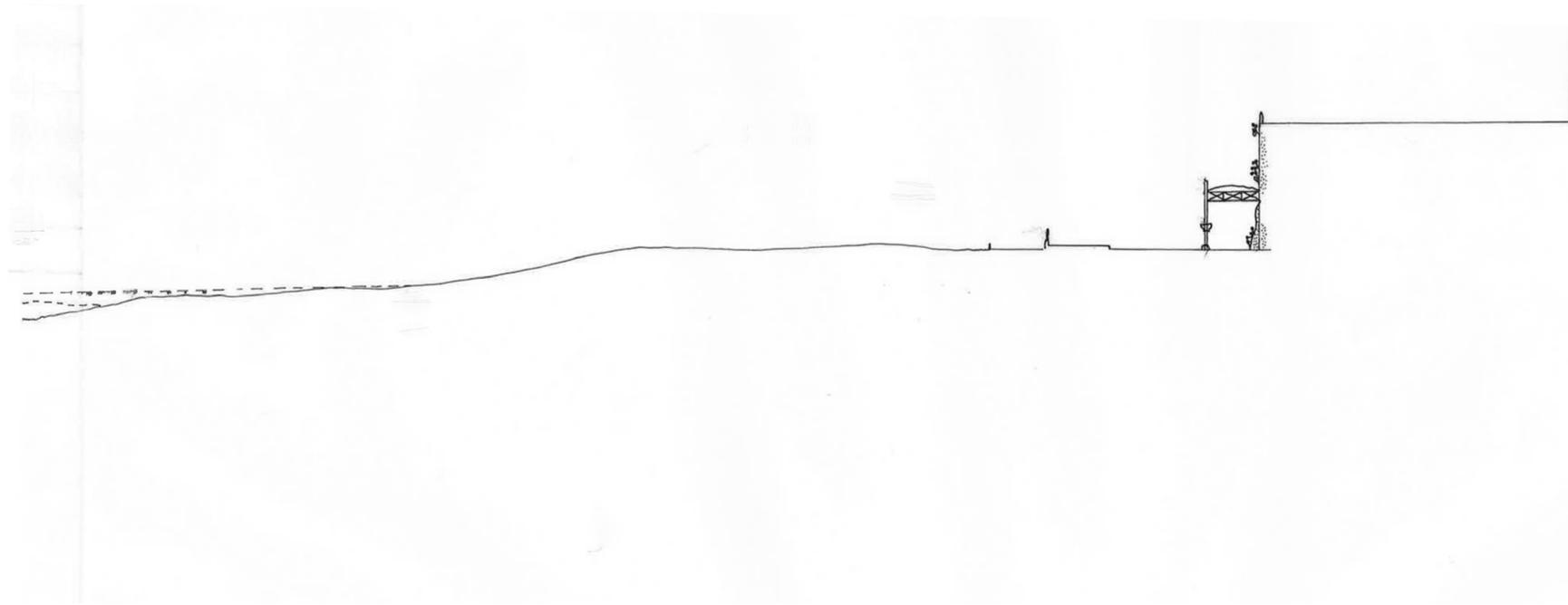


Letter finishing machine and storage.

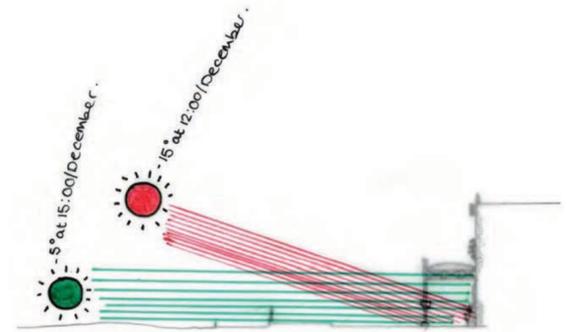


1:500 Section on A3.

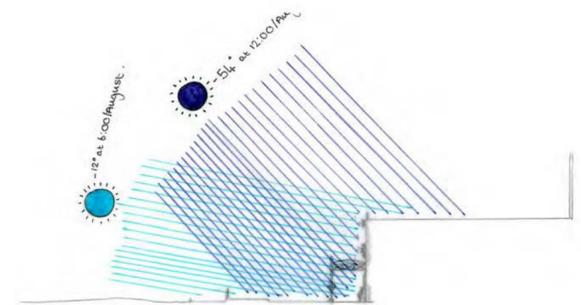
The start of Kemptown, Maderia Drive, my arch at Maderia Terrace and the Beach.



Winter Solstice.



Summer Solstice.





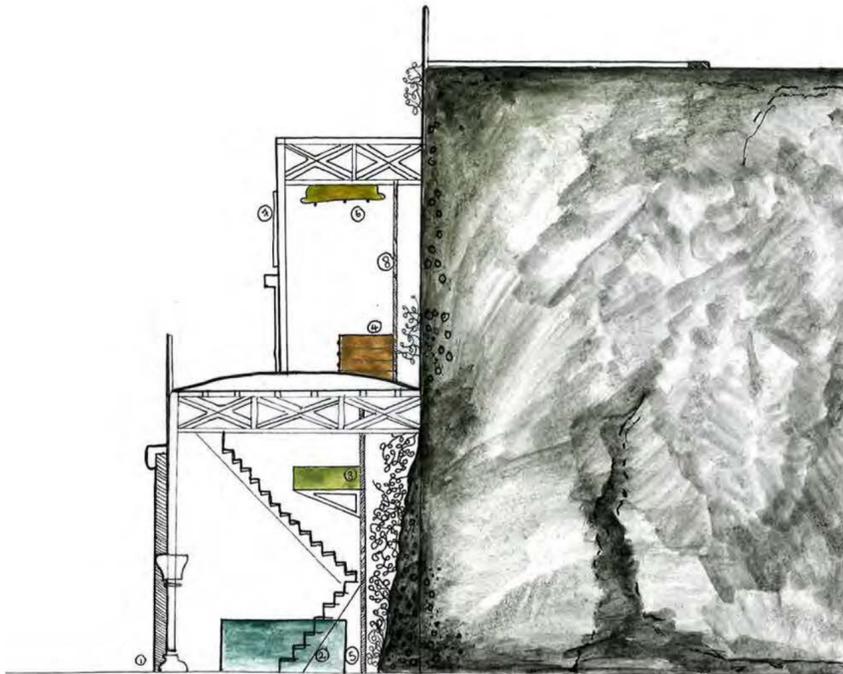
Shadow Study for the month of August.



Shadow Study for the month of December.

1:100 Section on A4.

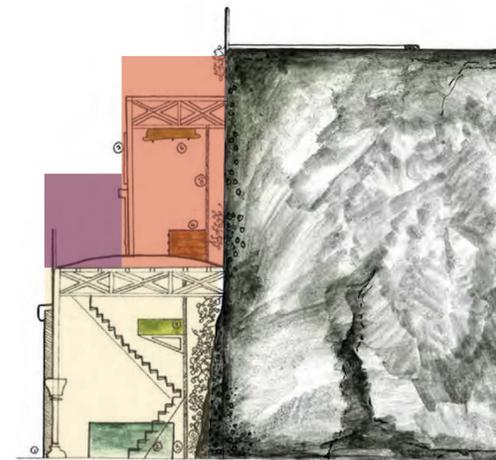
Starting to consider internal space and equipment needed.

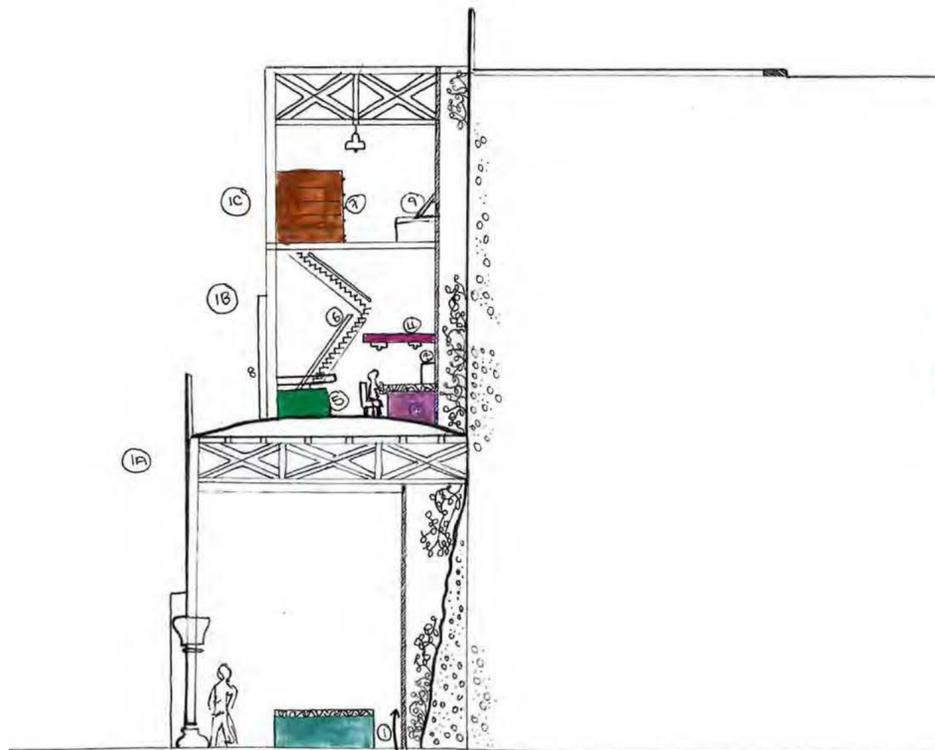


- ① Large entrance, capturing as much natural light as possible, which could travel all the way through the workshop to hit the green wall.
- ② large staircase which is towards the edge of the shop, will give access to ③ which is storage.
- ④ repurposed furniture to be used throughout the workshop, whether that's old chests of drawers or lighting etc.
- ⑤ A large communal workbench which is where visitors will be able to have a go at bookbinding.

- ⑥ & ⑦ A large lampshade/light and big windows looking at the horizon will mean that the more industrial workspace will get a nice 'glow' in the evening if anyone has been working late.
- ⑧ Glass wall/partitioning which showcases the oldest greenwall in the wh. Will be a key feature in my workshop. ~~Whether~~ I will need to consider how this is possible.

Exploring public and private space within my initial proposal.





- ① As my other design showcased, I need a large communal workspace which is social and also holds a lot of storage.
- ② upstairs on the second floor having a seating/social area is key for staff as this could be where staff meetings / any fine detailing need on books takes place.
- ③ Storage box for all the letter punches.
- ④ Lighting attached to a mezzanine which will be easily accessed and hold all the leathers / cloths which we wouldn't display in a first floor showroom.
- ⑤ Another work bench / storage facility which could house a press on top.
- ⑥ Example of the staircase which will run throughout the workshop.
- ⑦ Paper / card storage, as ④ board chopper will be on this floor so makes sense to have them close together.

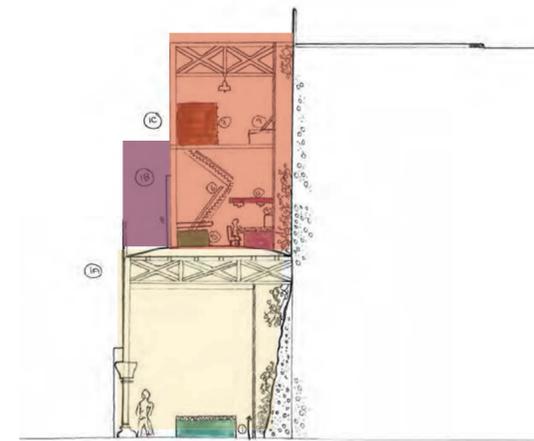
Flow throughout workshop.

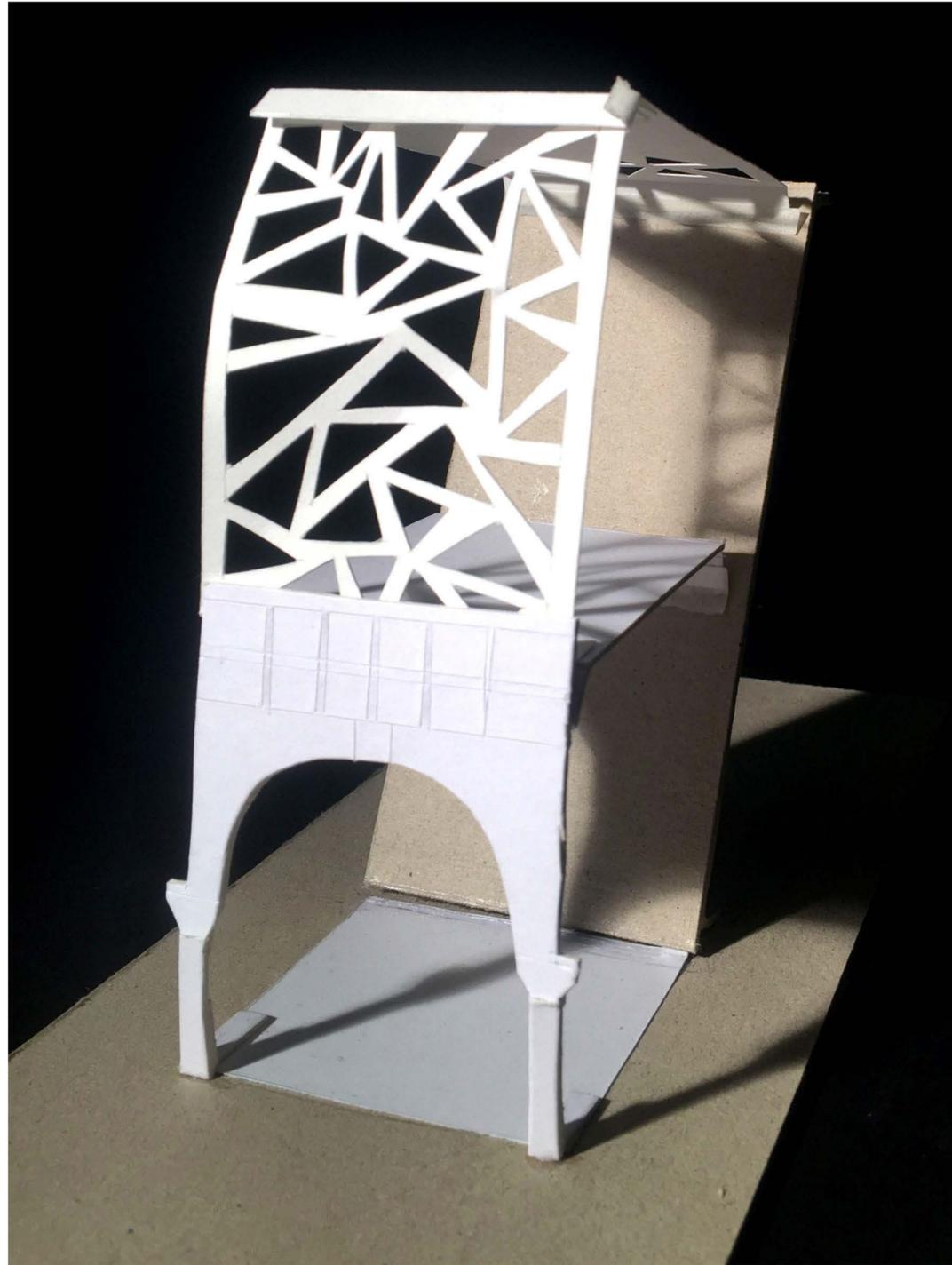
Boardcutting / Paper cutting

Pressing machine / finishing tools used.

Showroom / communal workspace to show prospective clients.

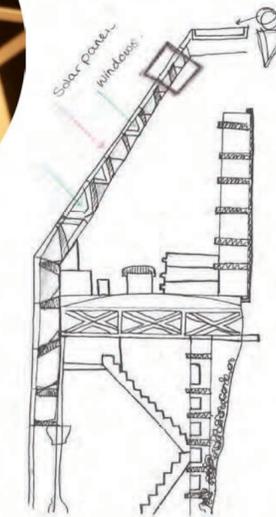
Exploring public and private space within my initial proposal.





A preliminary attempt to see how a modular facade would affect the interior of the workshop. As you can see, it would create interesting areas of shadow and light. Although, you do not get a complete sense of how it would look without walls. I plan to recreate this model on a larger scale, with modular pieces.

What I do like about this is that the structure stops at the top of the sea wall, so that it does not obstruct peoples views of the beach/Maderia Terrace from Hove Lawns or Maderia Drive.



1:50 Facade Sketch Model.



In comparison to my first sketch model, this one feels much more structural. Although not fully complete, I am able to get a sense for what size my modular pieces will need to be in order to incorporate the various functions I want it to and also how they will need to be connected together. All the individual pieces coming together to form something with a purpose directly reflects how the signatures are carefully bound together to form a book.

Al Bahar Towers - Dubai.

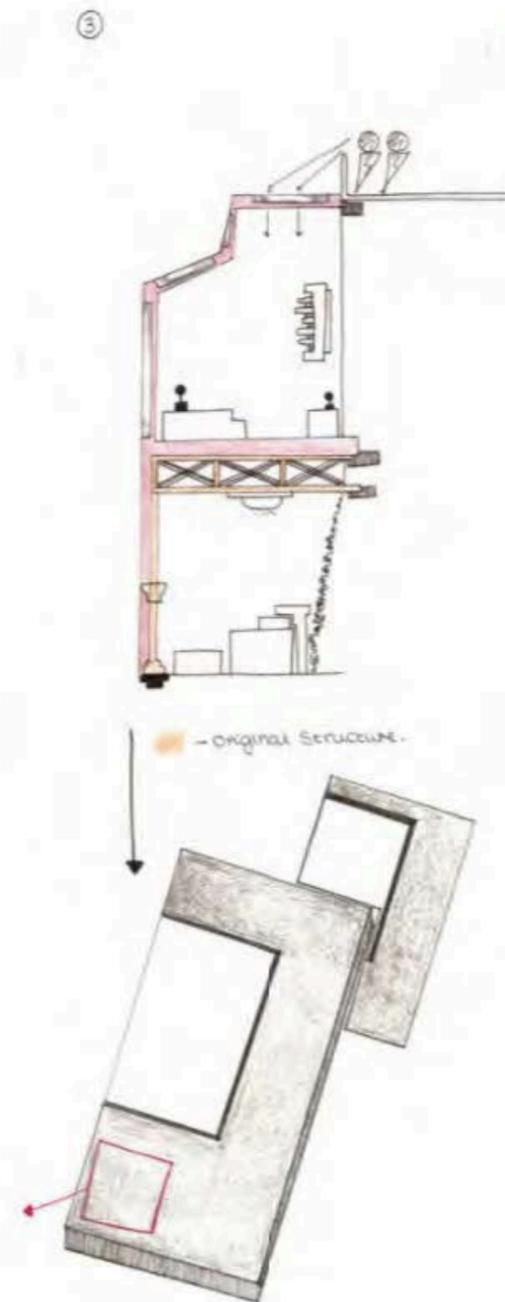
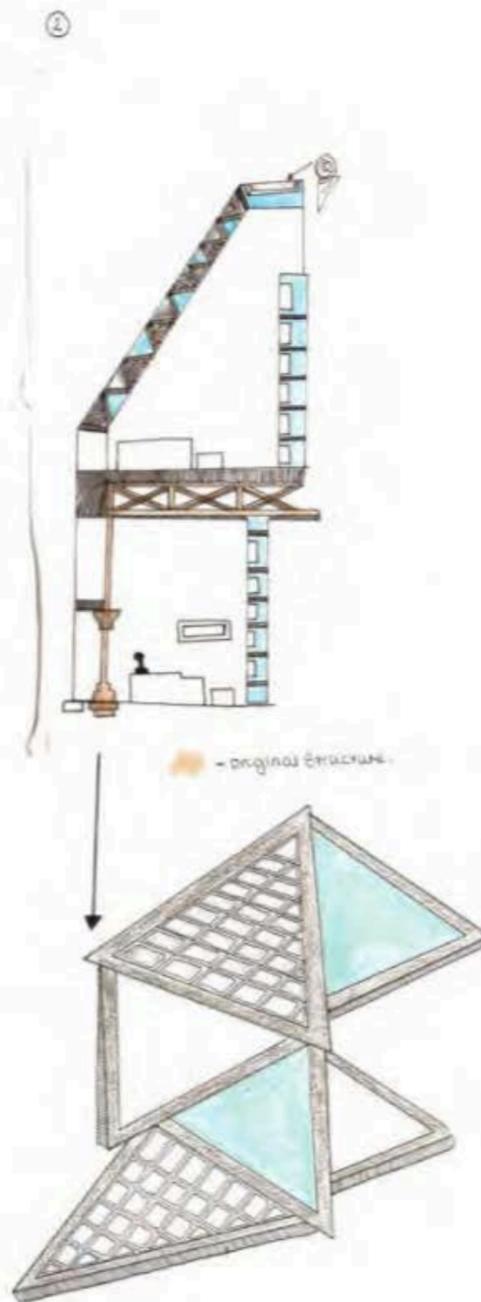
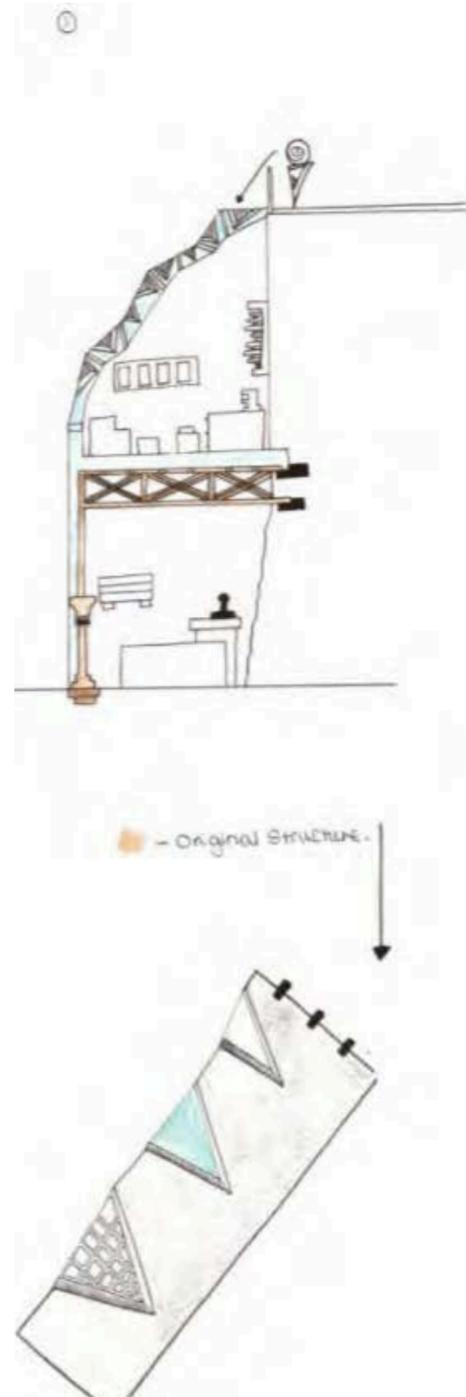
What drew me to the Al Bahar Towers is that although extremely aesthetically pleasing, the facade has been designed to perform a specific function- to respond to the changing movement of the sun. This intricate screen sits 2m outside the buildings exterior on an independent frame, and the computerised panels open and close to mirror where the sun is. In a country with Dubai's climate, this will help reduce solar gain by 50% and therefore help cut down the energy utilised to keep the building air conditioned.

As my chosen micro-generation is solar panels, this has further influenced my decision to not only make the facade aesthetically pleasing but incorporate a function that benefits the interior of the building: in my case, producing energy to power appliances inside.



1. Solar Panels.
2. Windows.
3. Cladding.

1:100 Facade Section Studies.



The environmental studies I conducted have determined my chosen micro-generation; solar panels. I have started to experiment with incorporating them into my initial proposals. Each of these designs interacts with the existing structure in its own way and has a different unique way of integrating solar panels into them.

1. This design is made of separate panels that will house solar panels, windows and cladding. Each panel can be angled slightly differently so that they are able to absorb as much sunlight as possible, producing energy for the workshop but also increasing the amount of natural light that enters the building.
2. Individual modular components that fit together. Each component will be made up of either a solar panel, window or cladding housed in a frame. This is my favourite design idea as when constructing my proposal I will be able to spend time considering where to have windows to allow more light into certain parts of the workshop where it is needed and where to have solar panels to absorb the most sunlight in the different seasons.
3. Similar to the first design, the structure of this design is also comprised of panels that will slot together, however the main focus will be large windows that allow people to peer into the bindery at different levels from the road below and Madeira Drive above. Solar panels would be present however, they will not influence the angle the facade is that.



The materials within my cube are a direct representation of those that I will use in the construction of my workshop. Taking inspiration from the LongFu Life Experience Centre, I wanted to use a wood that I could source as locally to site as possible therefore reducing the effect I have on the environment. My chosen wood is Sweet Chestnut, as it is grown in coppices the whole tree does not get harvested, therefore the same tree can continue to grow and be harvested multiple times.

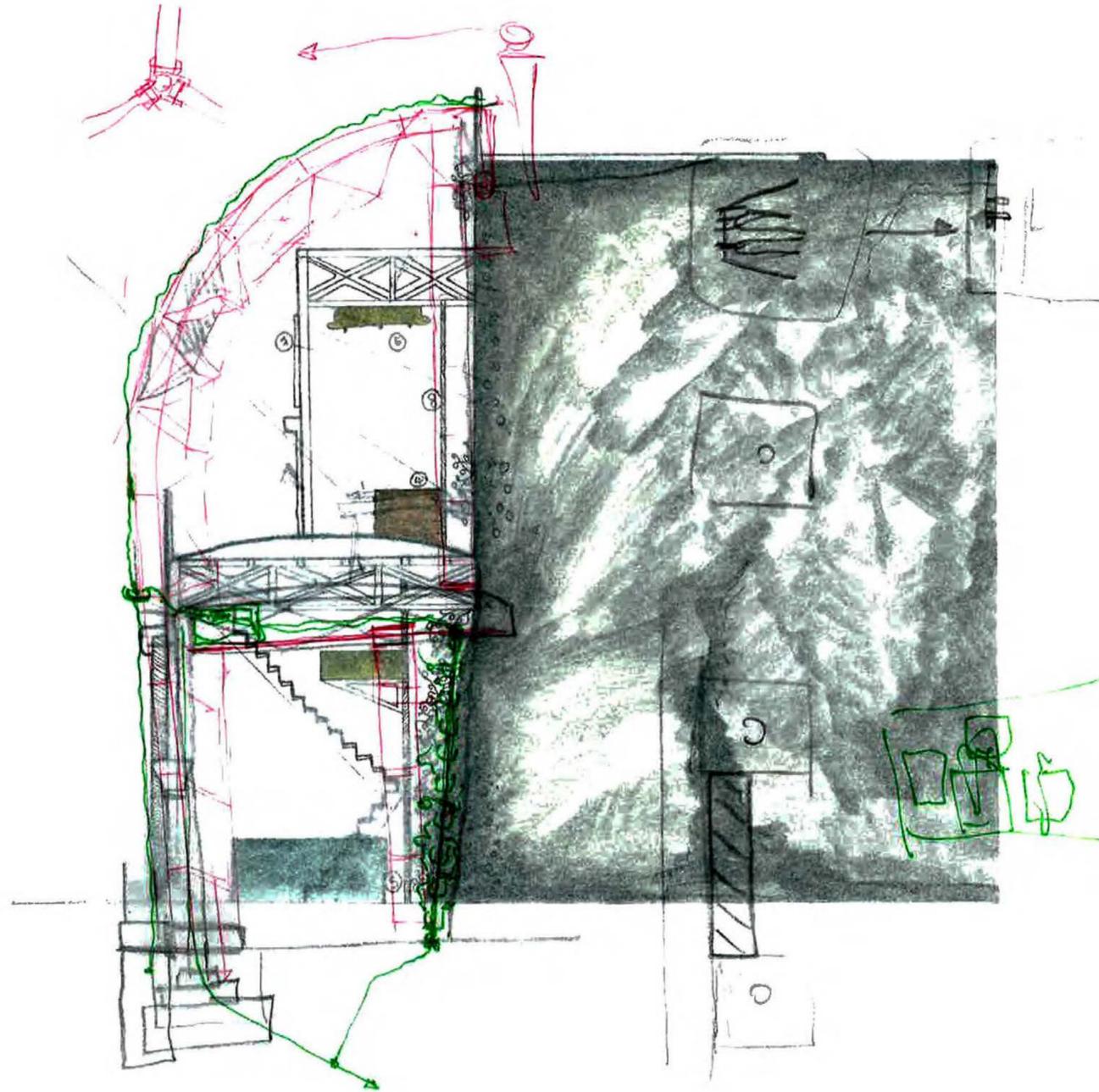
I explored numerous ways in which the materials in my cube could be connected together, two of my favourite are pictured below. Using the process of Yotsume Toji, I was able to delicately fasten the green wall to the sweet chestnut I plan to use as the structure frame. Another was using something called a 'Dado Joint' which I reinforced with a steel rod and nut. I could use this type of connect within my structure and steel to strengthen it.



- Materials present within my cube:
1. Sweet Chestnut Glulam (represented by MDF)
  2. Glass.
  3. Green Wall.
  4. Steel Plates and Bolts.
  5. Rock Wool Insulation.

1:100 Section on A4.

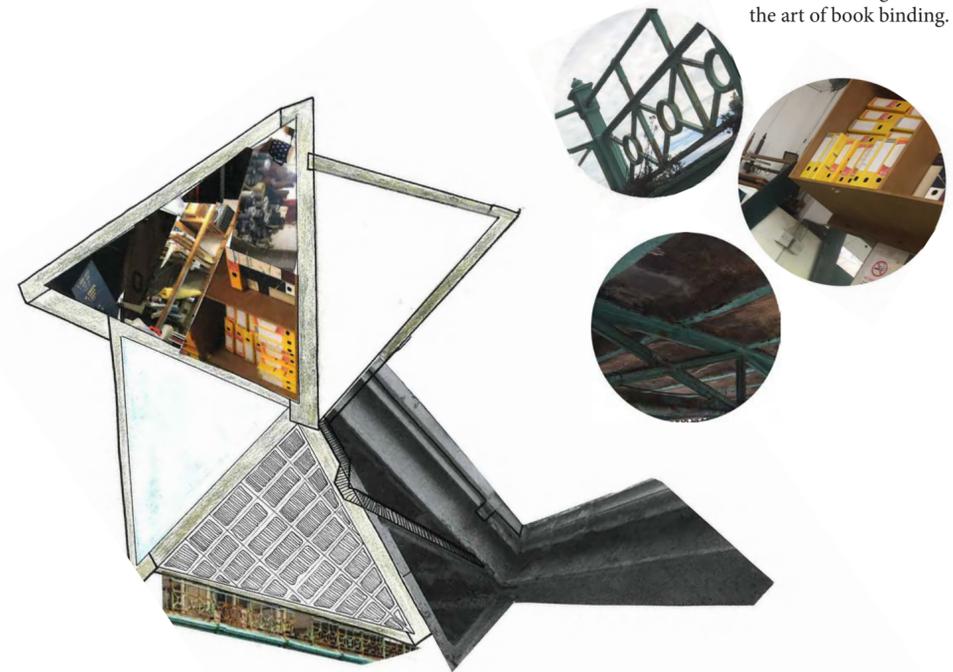
Starting to consider how my proposal will fit around the existing arch structure.

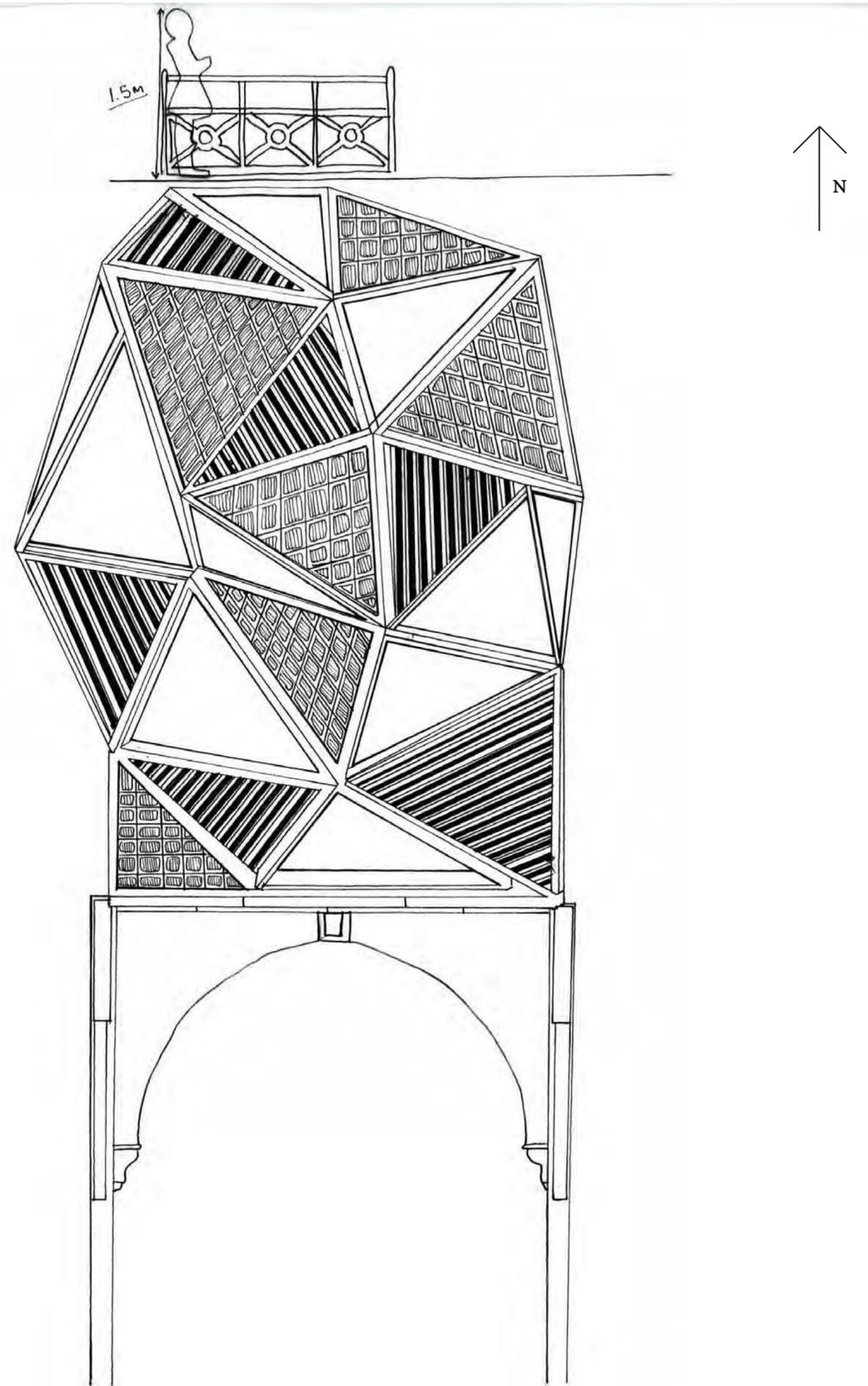


My modular grid shell structure will be self supporting and fit over the existing arch structure, therefore not compromising it in anyway. In this quick sketch you are able to see that two joists will run from the front of the structure back to the sea wall. One joist will sit above the concrete ontop of the steel truss, and one will be placed below the steel truss, helping to take the load of my structure.

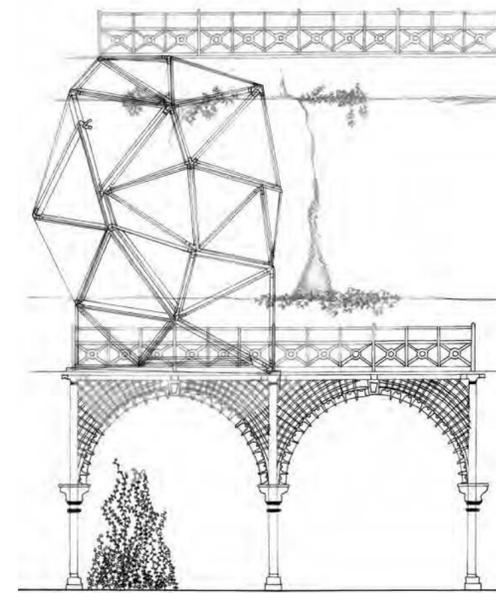
It will be made of a sweet chestnut glulam structural frame, with dado joints reinforced with steel plates and bolts. A skin will sit directly ontop of this frame, incorporating the facades different functions; solar panels to produce energy, windows to allow natural light in and cladding to create areas of shade. I now need to investigate the shapes in which these modular pieces will be, and also where these different panels are placed to get the most out of the facades purpose.

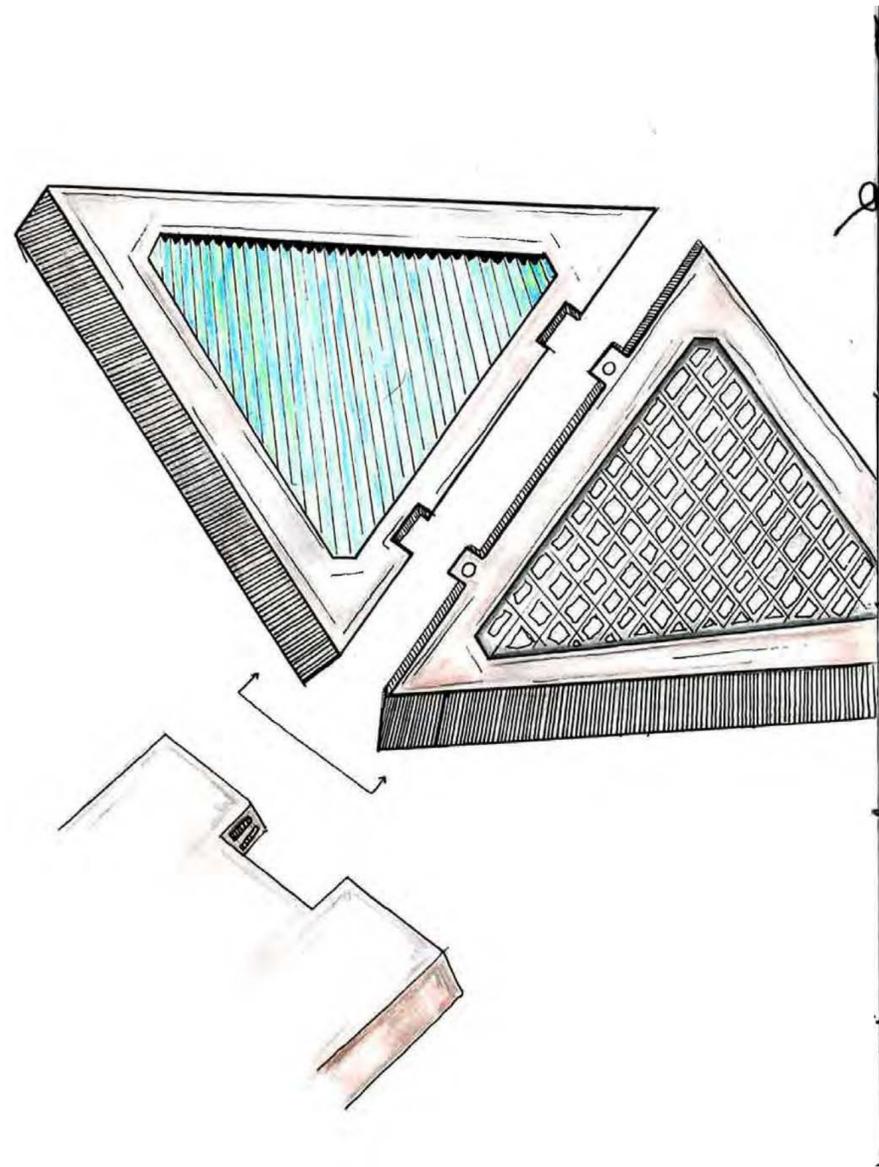
Quick modular grid-shell structure collage, incorporating photographs from my visit to the Wyvern Bindery and the Site. Synthesising the relationship that my proposal will have with the existing site and the art of book binding.



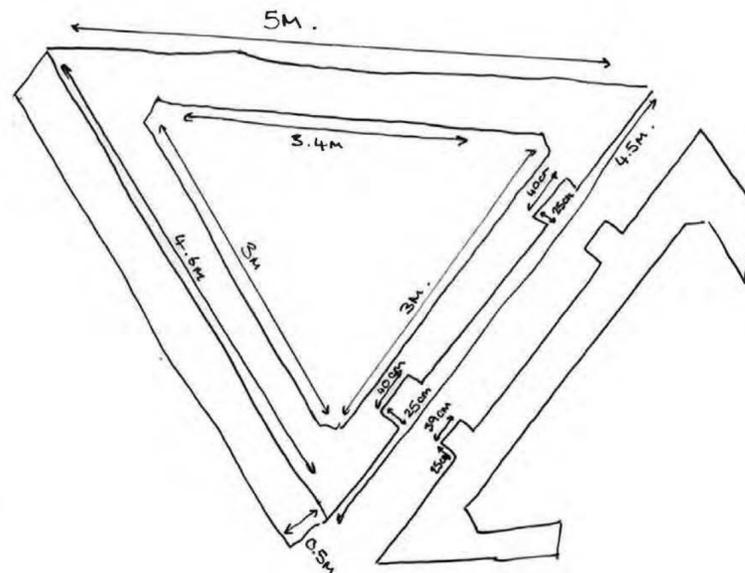


1:50 Structural Facade Elevation on A3.

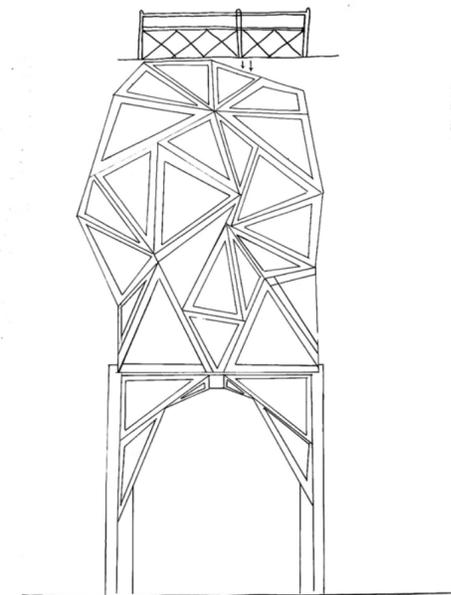




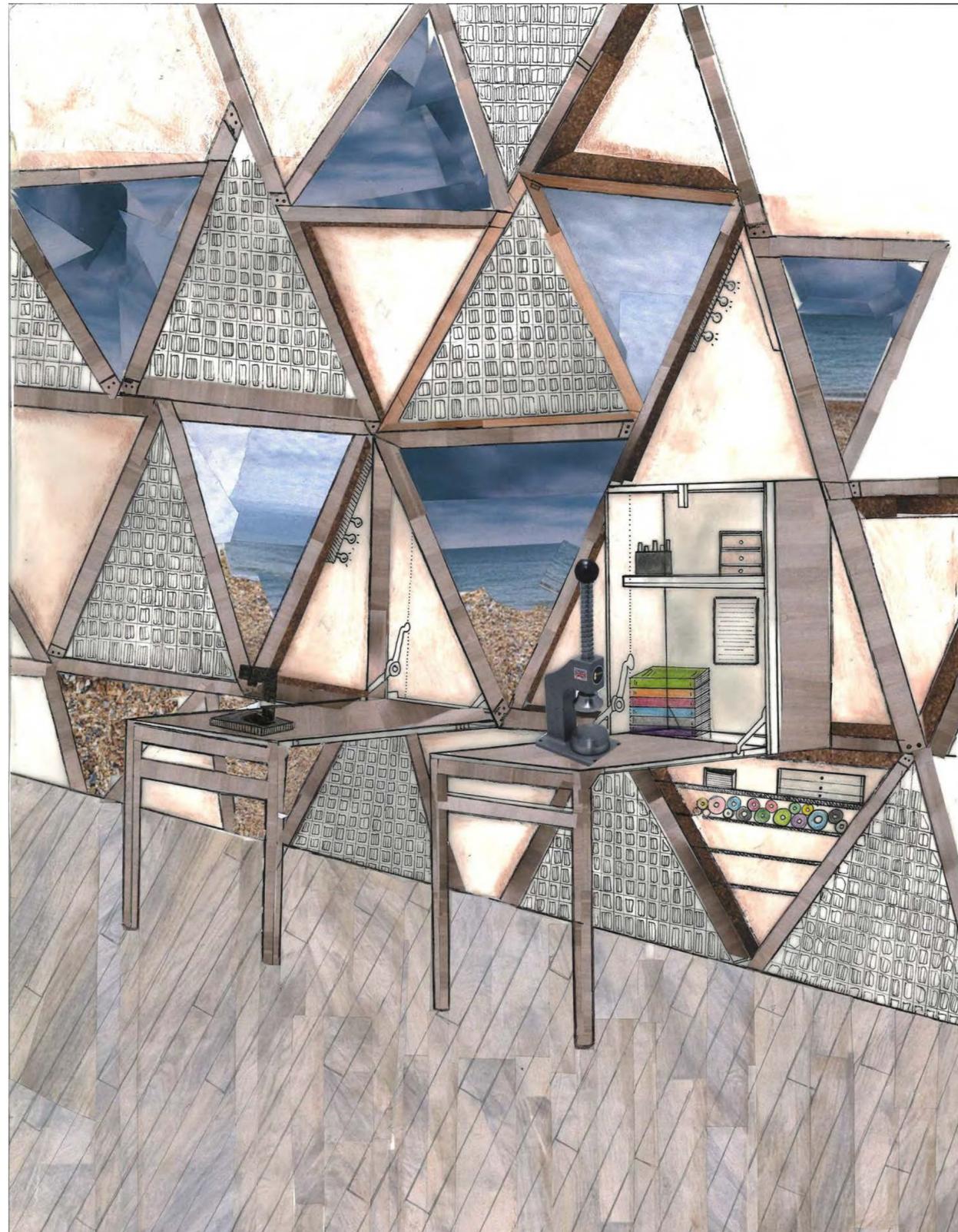
DIMENSIONS:  
1:50 Scale drawing.



1:50 Facade Shell Elevation on A3.

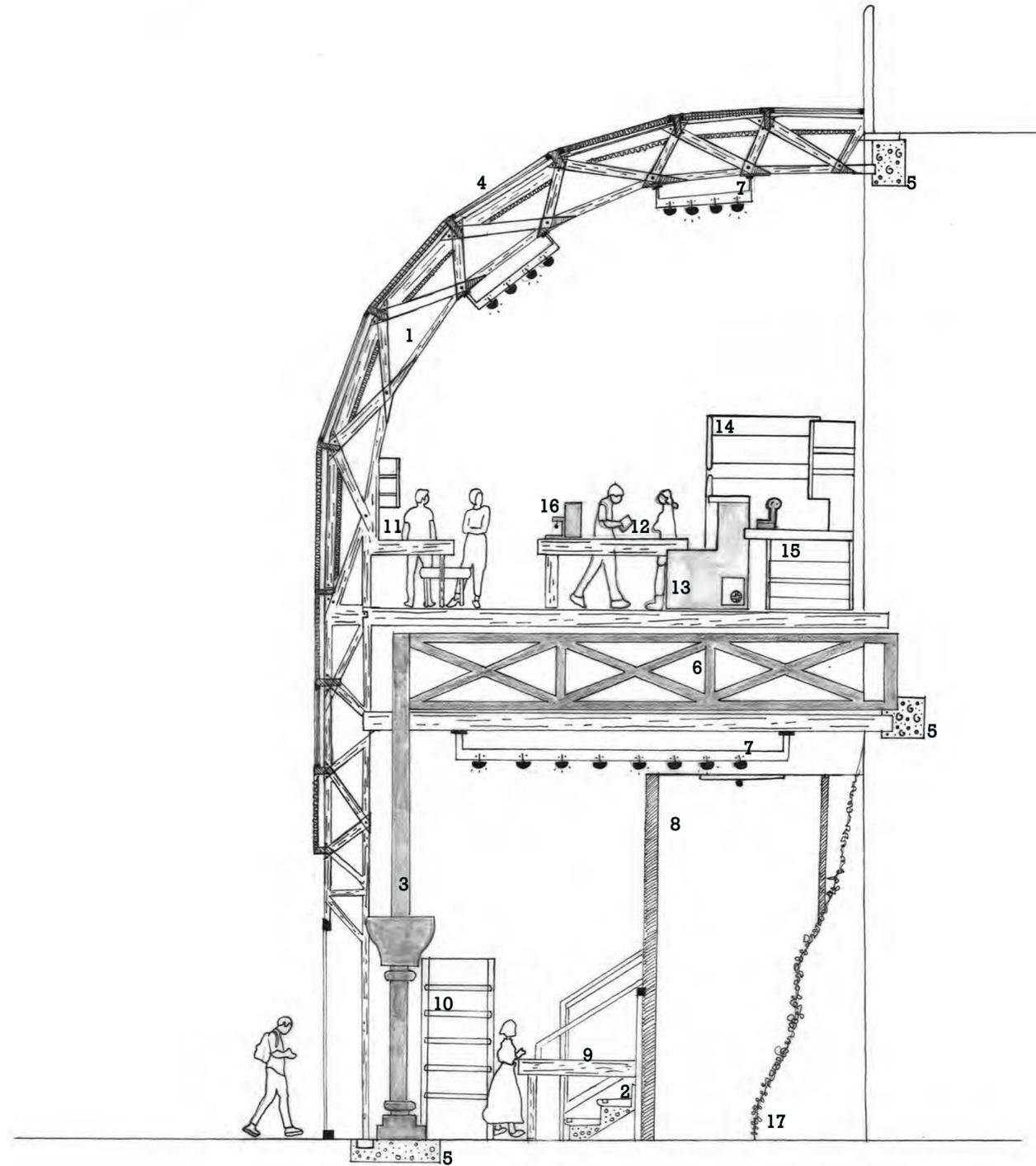


Internal First Floor Workshop Concept Collage



1:50 Section on A3

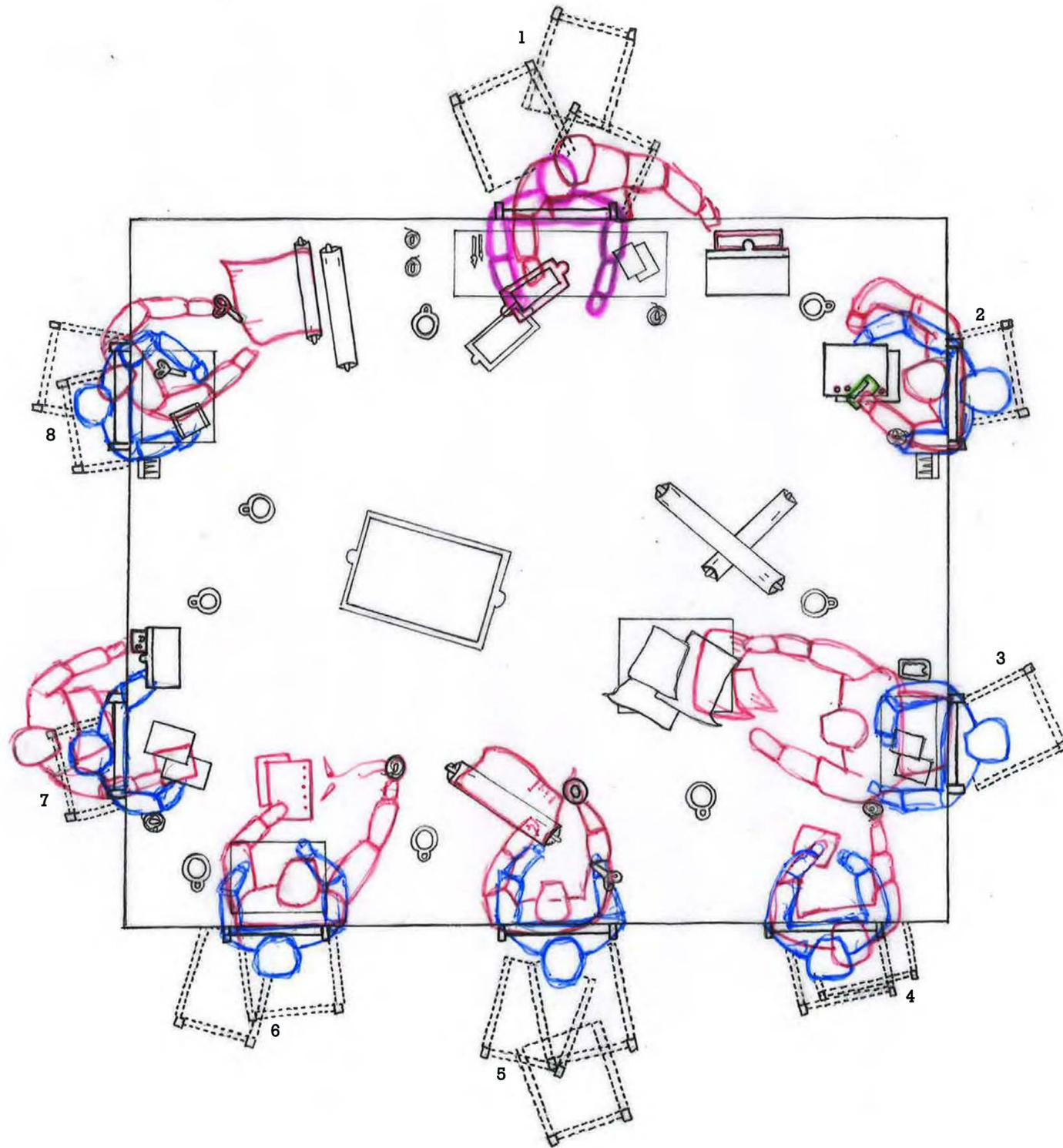
Inhabited Workshop and Equipment Needed



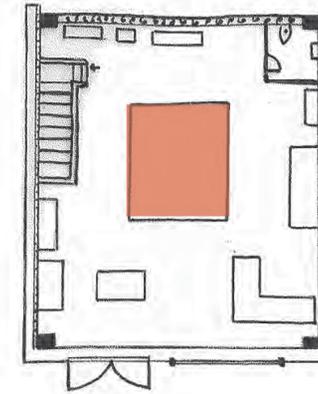
1. Sweet Chestnut Glulam Structure
2. Staircase
3. Existing Steel Column
4. Facade skin comprised of solar panels, windows and cladding
5. Floating Concrete Foundation
6. Existing Steel Truss
7. Lights
8. Toilet
9. Communal Workbench
10. Display Case
11. Desks
12. Social Work Area
13. Guillotine
14. Fabric Storage
15. Paper Storage
16. Desk Press
17. Green Wall/Sea Wall

'A typical day in the workshop.'

1:20 Main Workbench on A3



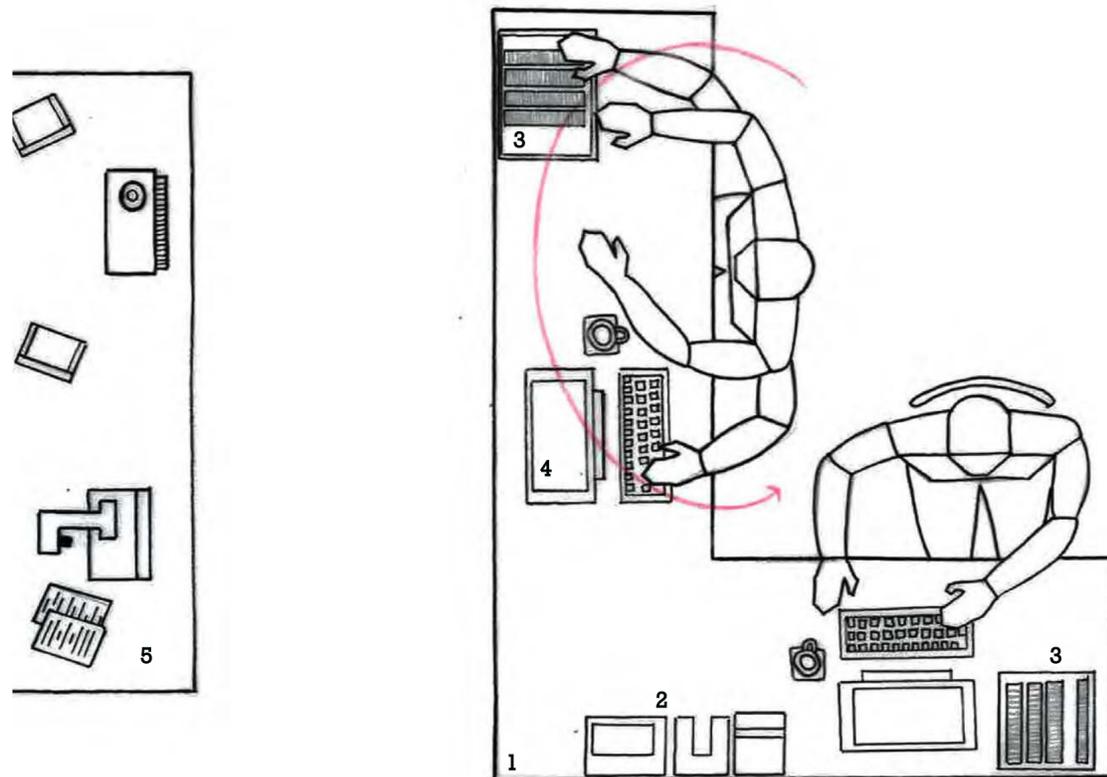
1:200 Ground Floor Workshop Plan.



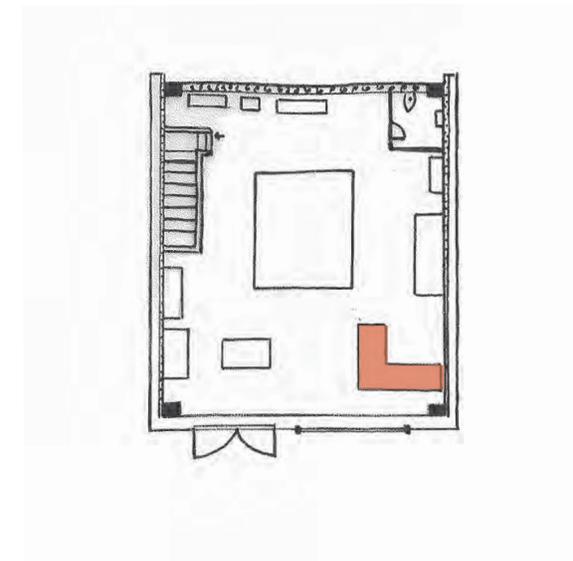
1. An integral part of the binding process, this individual is making sure all the tools are present so this process can take place.
2. This staff member is preparing the holes in the signatures ready for them to be bound.
3. Discussing which leather should be used to cover the final product.
4. ^
5. Measuring and cutting cloth ready for the interior of the books.
6. The intricate task of carefully sewing the signatures together.
7. Adding the finishing touches by hand.
8. Cutting more materials ready for the process to begin again.

Ergonomics within the Workshop

1:20 Front Desk on A3

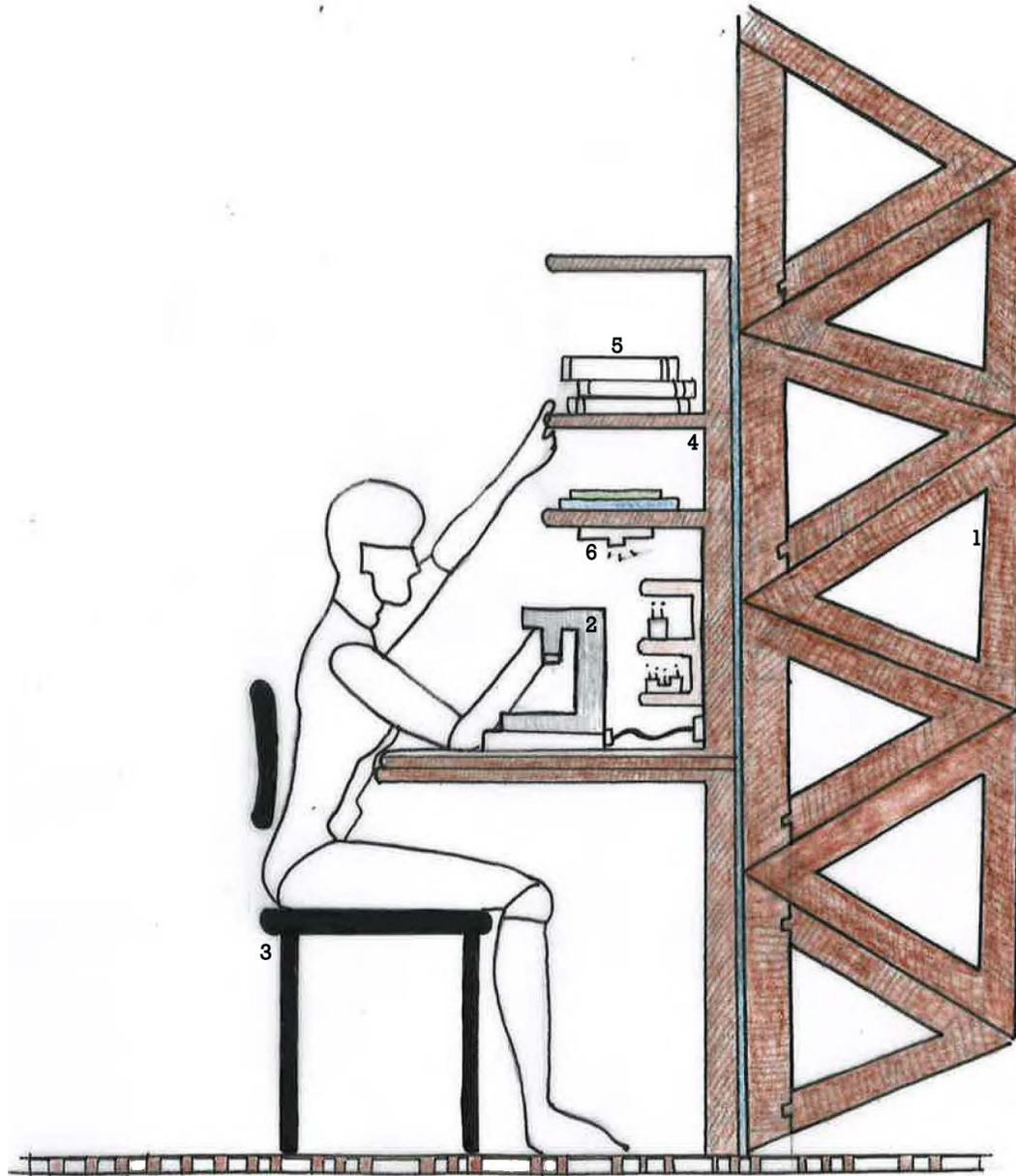


1:200 Ground Floor Workshop Plan.

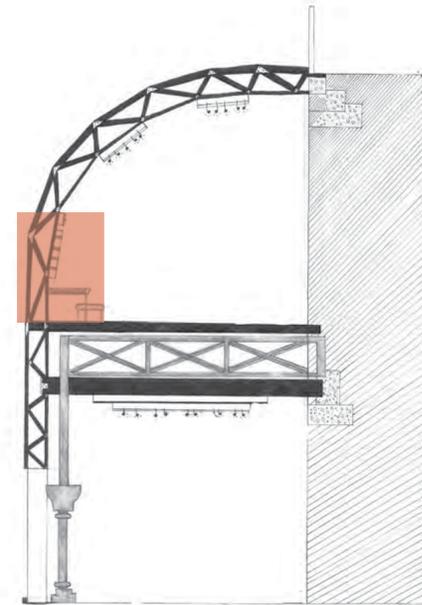


1. Front Desk.
2. Desktop Storage.
3. Orders in/out trays.
4. Computers.
5. Main Workbench.

1:20 First Floor Desk on A3

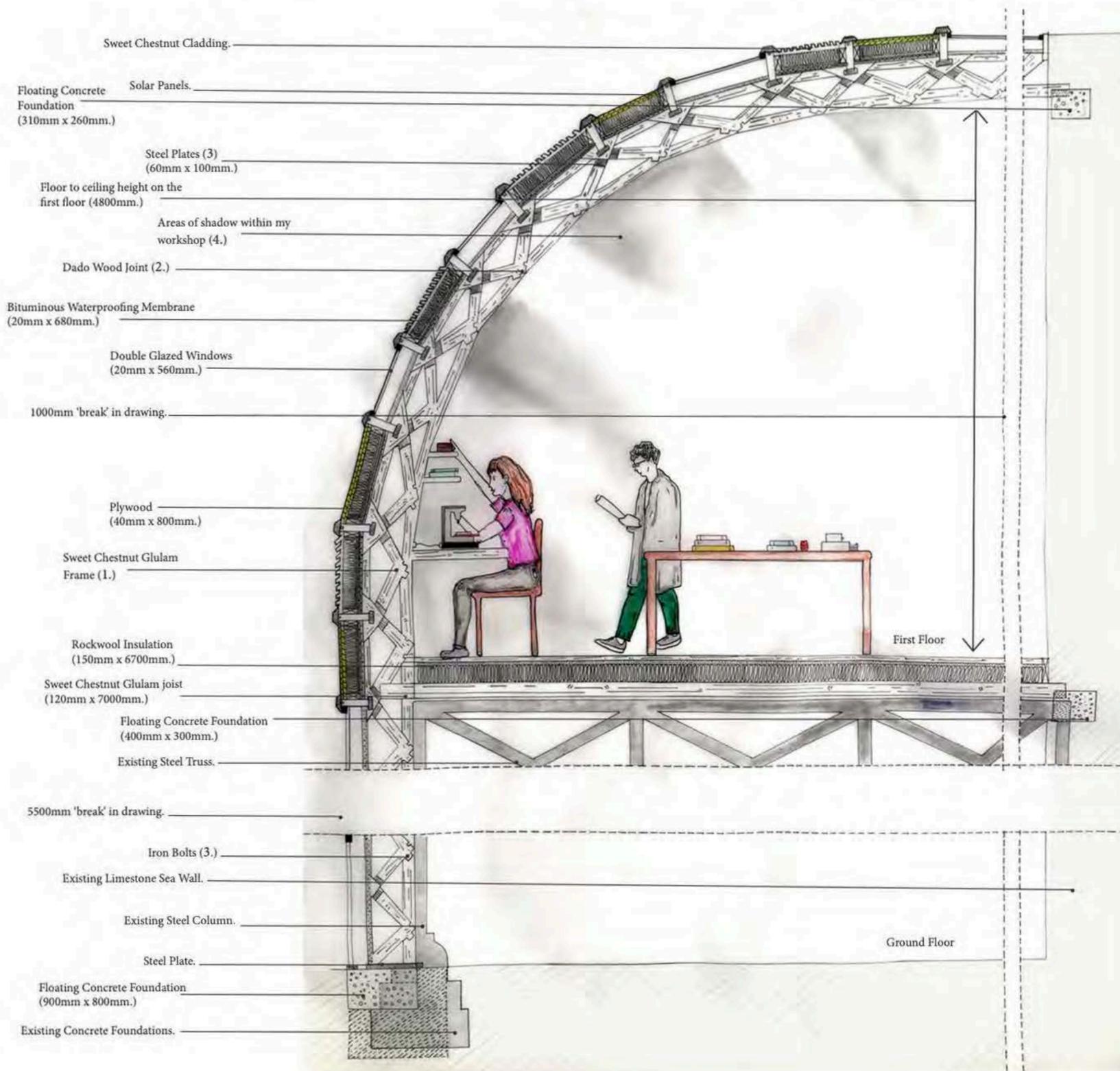


1:50 Structural Section on A3



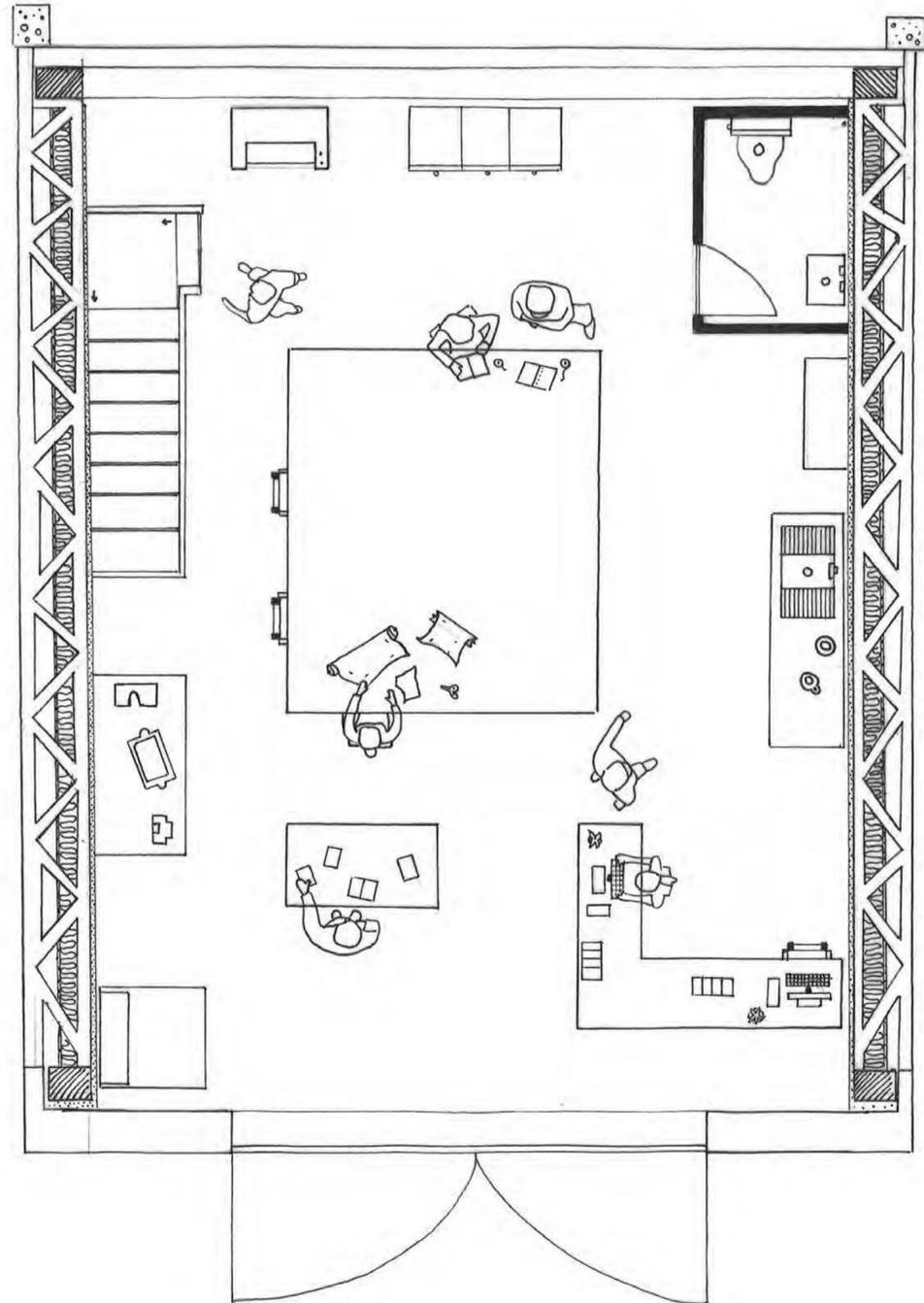
1. Sweet Chestnut Glulam grid shell structure.
2. Letter Finishing Machine.
3. Chair.
4. Shelving.
5. Boxes containing letter stamps.
6. Lights.

1:20 Annotated Construction Section on A2.

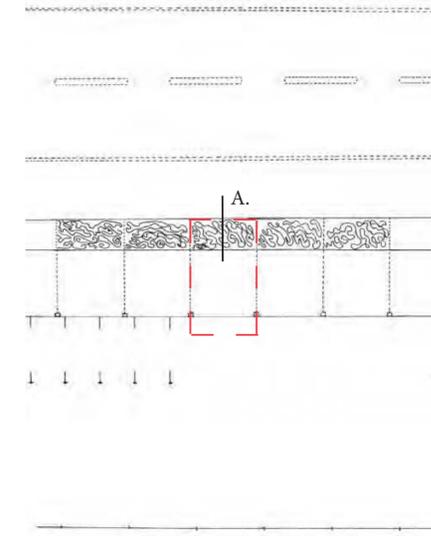


1. Sweet Chestnut is the type of wood I have chosen to use for the construction of my workshop extension. As it is grown in a coppice, the tree is able to regenerate itself, therefore reducing the impact I will have on the environment when building this extension.
2. When constructing my materials cube, I used Dado Wood Joints to hold various components together. You construct this type of joint by cutting a square-cornered channel across the grain of a workpiece that then accepts the ends of the cross piece.
3. Although the Dado Wood Joint is seen as very strong, due to the size of the extension I am proposing I have reinforced these joints with steel plates and Iron bolts. This also allows me to easily deconstruct the extension if various pieces need repairing/renovating.
4. Within this construction section I have started to consider the area's of shadow that would occur. As you can see, the central table would receive a lot of natural light, which will be useful when they are finishing the front covers of books using intricate detailing. However, the desks looking out to sea will not receive as much light therefore I would need to consider lighting fixtures for this area.

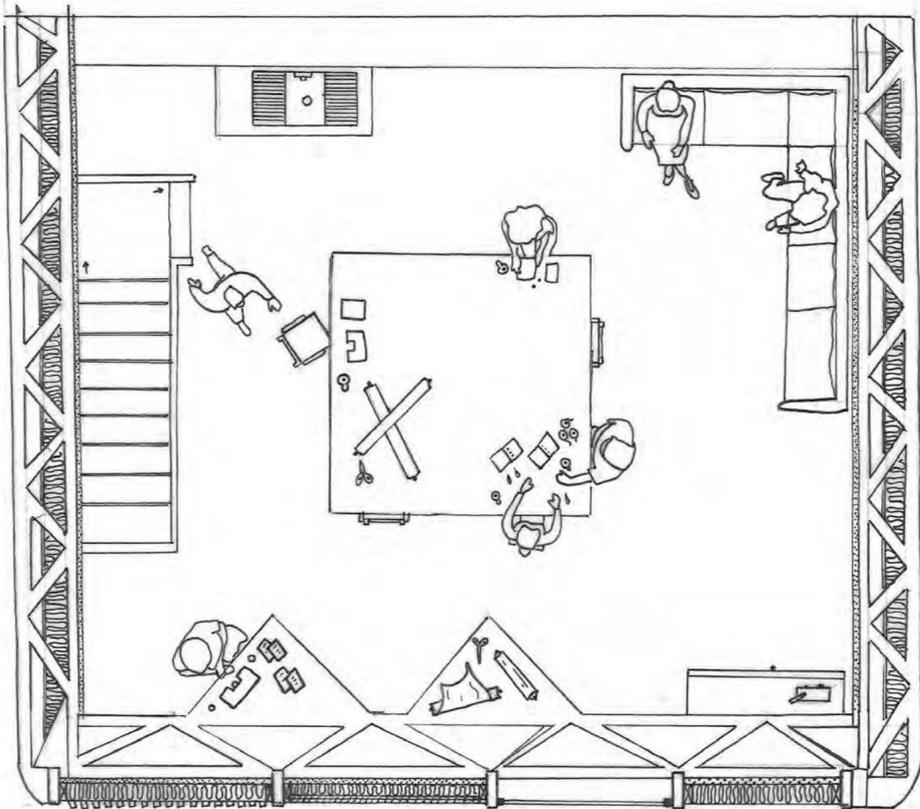
1:50 Workshop Ground Floor Plan.



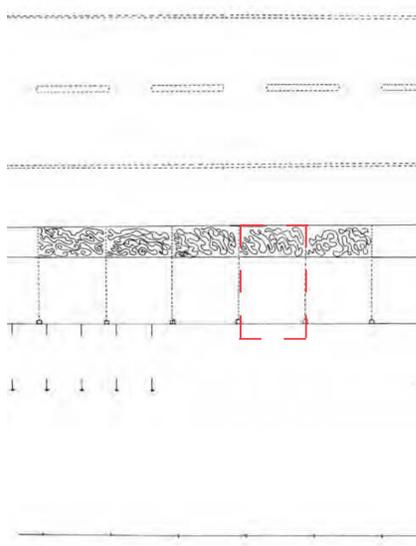
1:200 Plan indicating my arch on site.



1:50 Workshop First Floor Plan.



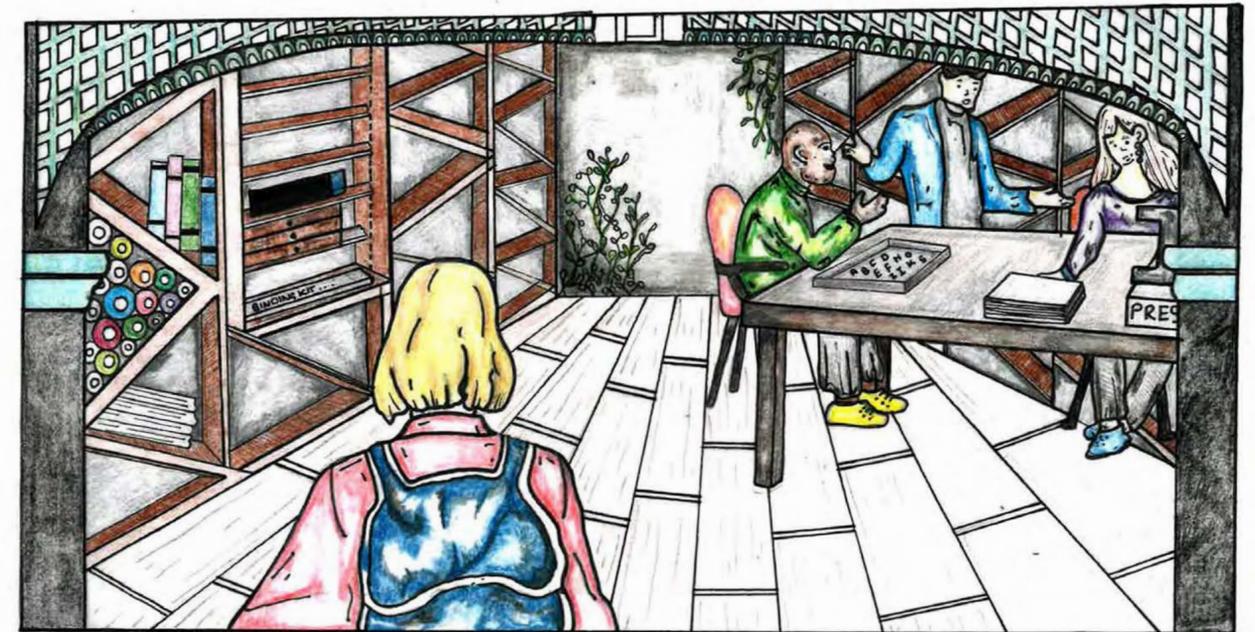
1:200 Plan indicating my arch on site.





Storyboard 1.

When walking past my workshop, the unusual facade which differs from anything on Madeira Terrace intrigues you. It is so different but then you think that's what Brighton is known for, individuality. You wonder if the interior is unusual as the exterior so decide to venture in excited at the prospect of what is waiting...



Storyboard 2.

Upon entering the Bindery, you are not disappointed. You first notice how the exterior moulds perfectly around the existing arch spindrels which adds a sense of delicacy to the building. When looking further into the workshop, you see the triangular structure is reflected inside, turned into storage areas filled with different colour materials, books of varying ages and sizes and a large workbench where staff members are gathered discussing their next binding project.

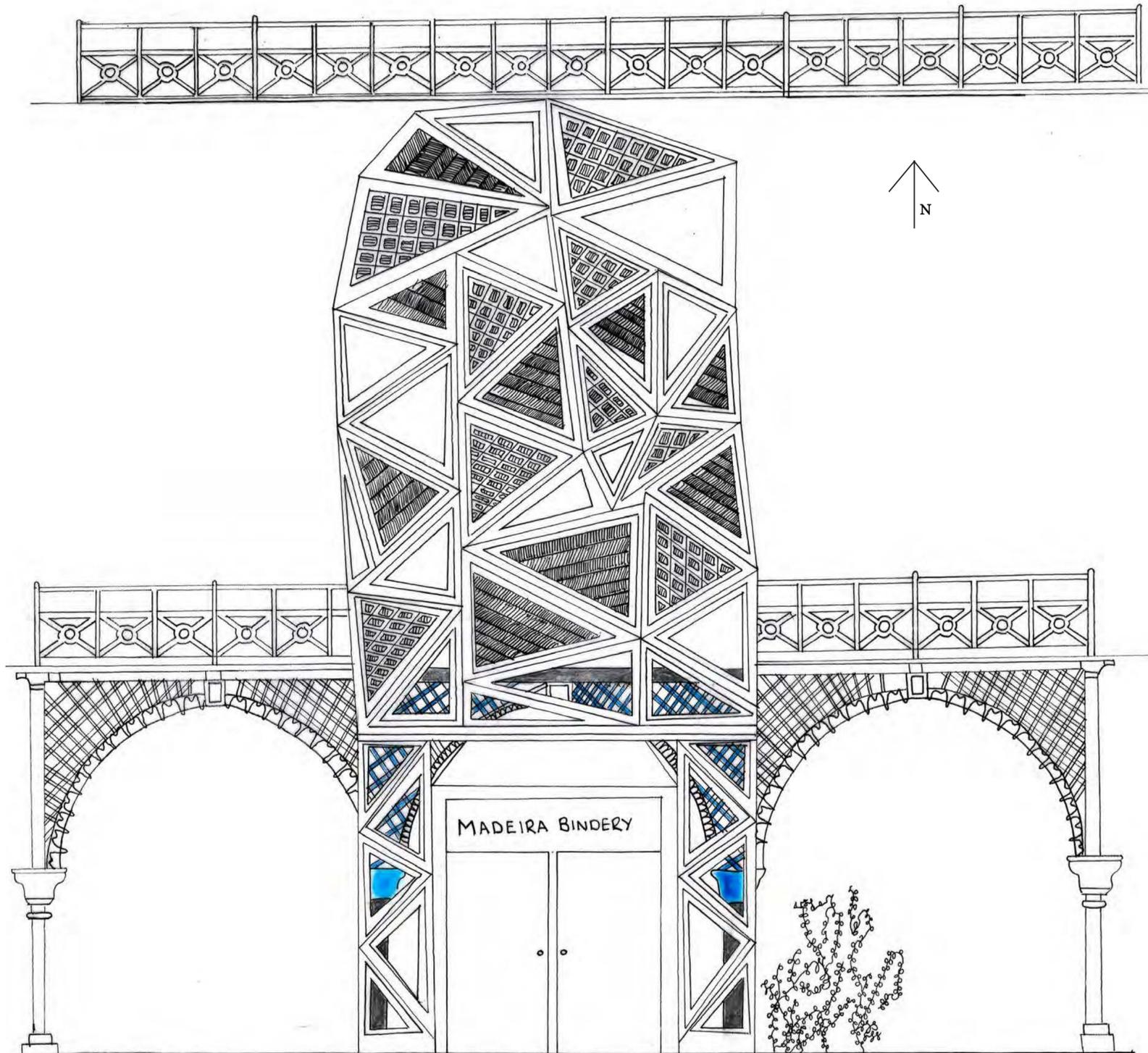


Storyboard 3.

After speaking to the staff downstairs and explaining how intrigued you are by their workshop, they invite you to take a look upstairs. Upstairs, the first thing that catches your eye is the desks. How clever, you think to yourself. Desks that open out of the wall, just like books open. The next is the view to the beach, flooding the workshop with light and the tranquil blue colour of the sea.

Final Orthographic Drawings.

1:50 South Elevation on A3.



(A.) 1:50 Section on A3.

