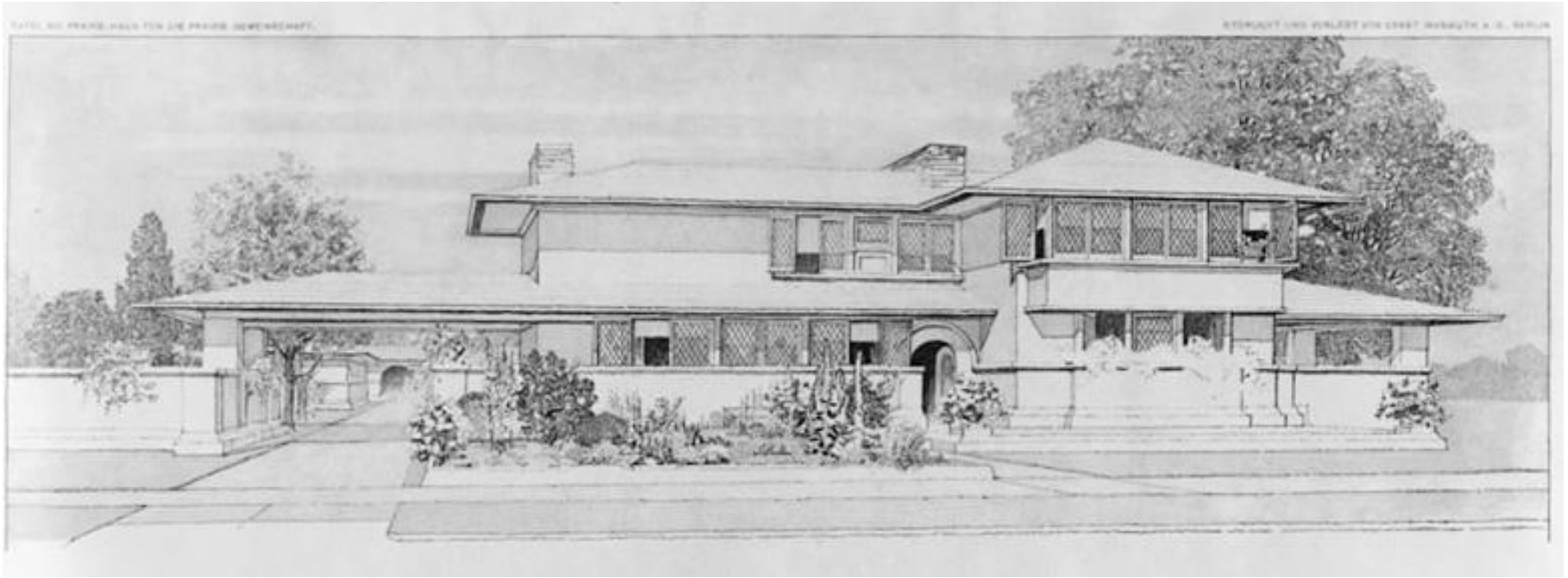
Frank Lloyd Wright

And the Prairie House Movement

1920s-30s Architecture



The Prairie house design is famous for its use of broad and shallow pitched rooves and many large windows which tend to be grouped together. This style was created to give a unique feel to Northern American architecture. These houses focussed on having an open plan and use of horizontal lines, making them wide in size. Frank Lloyd Wright and many other architects, such as William Drummond and Edward Humrich, used this design to individualize American architecture.

Prairie house design

Frank Lloyd Wright

The architect I am studying is Frank Lloyd Wright. At a first glance, he would appear to be a modern architect, but upon further research, I discovered he was an architect who designed buildings before World War II.

Frank Lloyds Wright's style is post modernistic and contains lots of glass and layers. There is a constant theme of individuality within all of his buildings. I personally like the quantity of glass and windows within his architecture. Frank Lloyd Wright's buildings seem to be quite open plan as some of his designs have windows spanning a large area of the structure.

This building is one of his Prairie houses constructed in 1901. This building certainly looks ahead of its time. I really like the overhanging rooves and thick, wooden window frames which contrast the colour and depth of the main structure.

I hope to incorporate the same depth and contrast within my own designs as well as the amount of glass and layers used within.

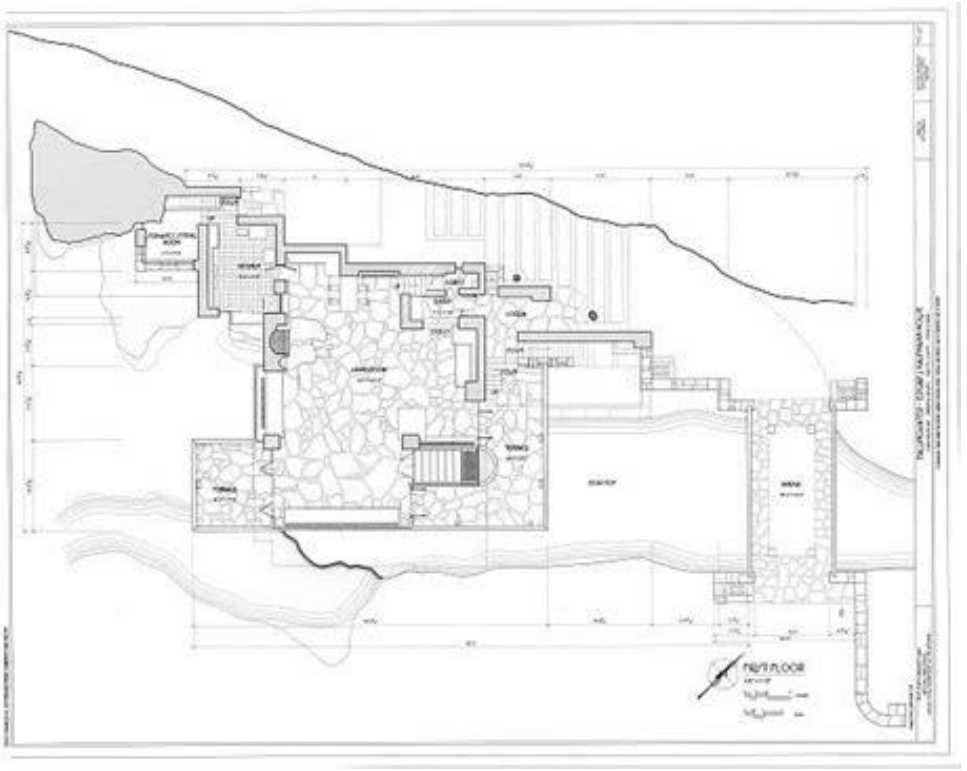
Frank Lloyd Wright – Two selected buildings

This Building is the Scottsdale house. Many of his designs are made of bricks and wood, with lower structures made of cement and large stones. I like the use of materials here as they contrast the clean finish of the wood and the bricks reflect the rougher looking underneath. At the foot of the lower steps is a swimming pool which is surrounded by areas of grass. Halfway up the steps is a boulder centrepiece which is very eye catching. There is a reasonable quantity of glass used on the middle and upper levels in the structure which lead me to suggest the interior design is quite open plan.

This is another one of Frank Lloyd Wright's Prairie houses. There are many layers of pitched rooves with a chimney in the centre. There is a low lying wall around the immediate perimeter of the building which gives it a more protected feel. Frank Lloyd Wright has used large windows to the left and right of the main entrance which stand out compared to the other smaller ones visible. I like this building because of the use of shallow pitched rooves which allow for a great view from the heightened section at the back of the structure. I also like the covered driveway to the right as it fills out each side to the property.

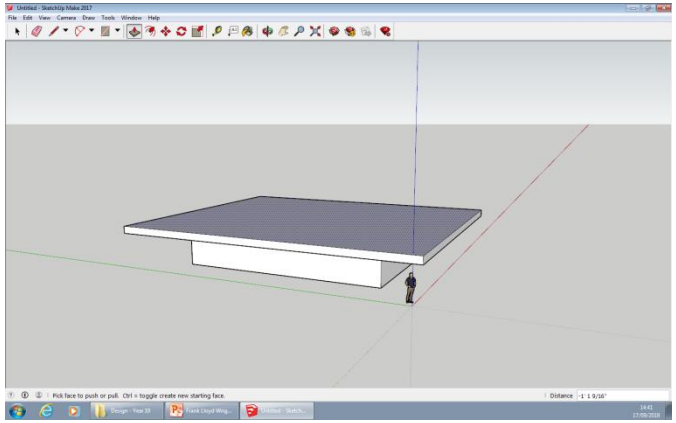
This house is called Falling water, or more commonly referred to as his waterfall house. I have chosen both a floor plan and photograph of this building as I can then recreate a more accurate design. It is located in a dense forest beside a river which flows underneath it. This building also has many balconies sticking out at all angles of the building.

The most noticeable feature of this building is the steps the descend from the bottom floor. It hangs over the river with a small platform at the bottom. Another main feature of this building is its many balconies. These contribute to the building's layers and add more depth to the structure.

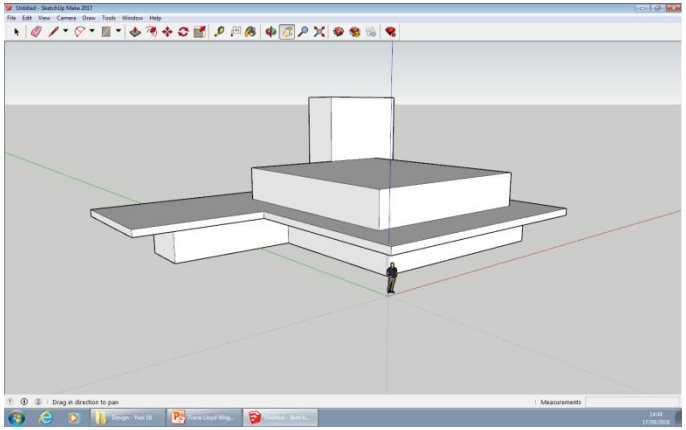


I hope to incorporate the same style of balconies within my own design, as well as the
quantity of windows used. This should create an overall sense of depth and layering to my design.

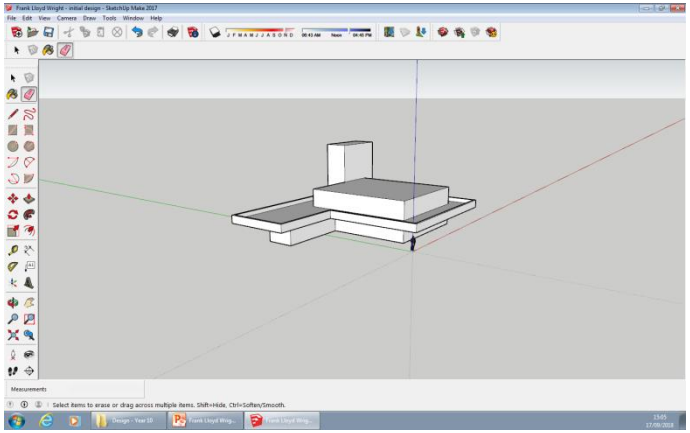
Sketchup – using the computer aided design program



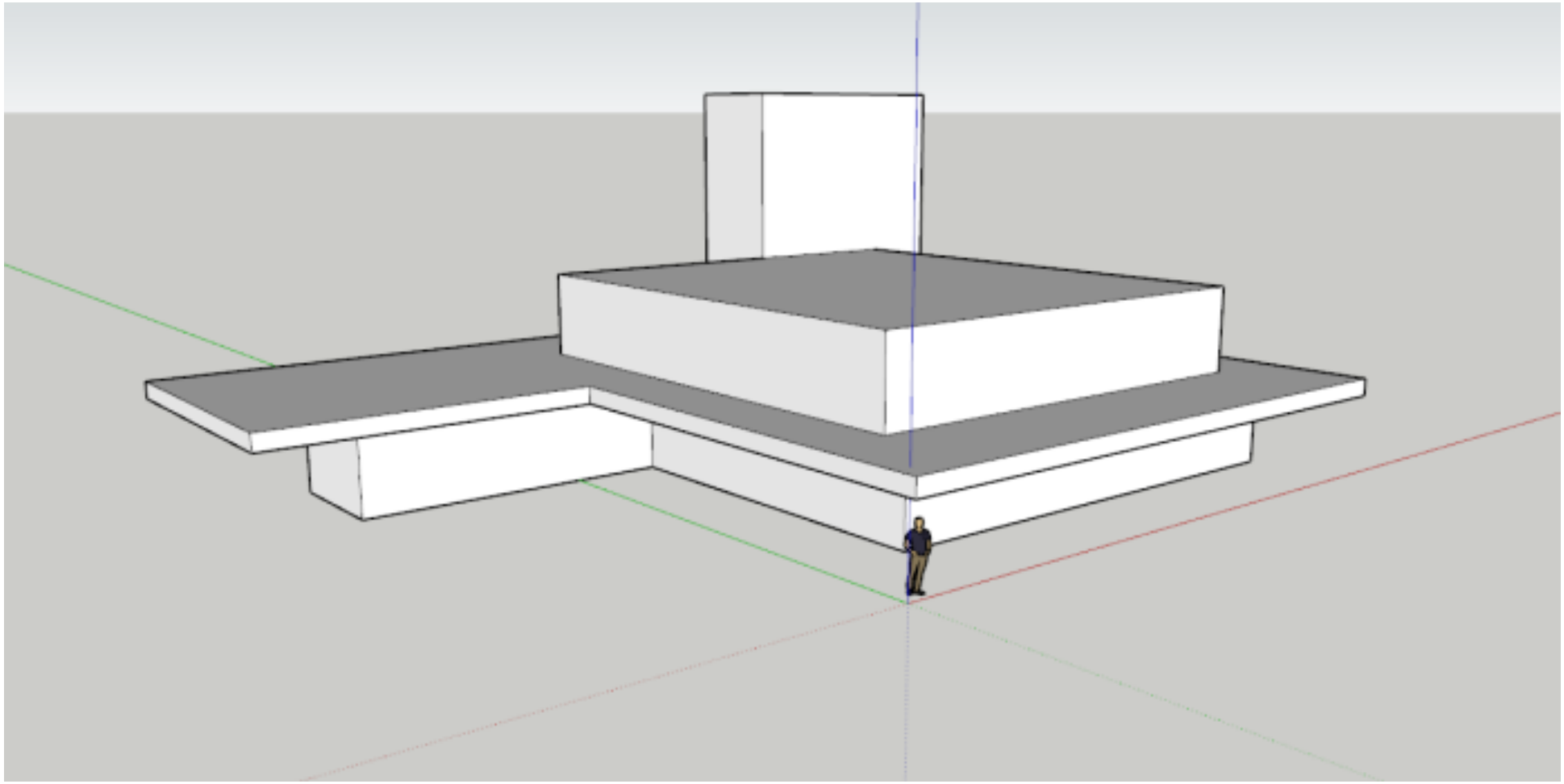
To create my design, I am using a software called Google Sketchup. This program is used for the creation of basic shapes and structures. You have the ability to control the height and size of shapes and structures. It also gives a 3D view of your creations .



First, I built a basic rectangle for the building to be based around. I then added the first balcony and second floor. Then I stretched out the balconies to compliment the size of the base floor whilst allowing for room to walk along the balconies.



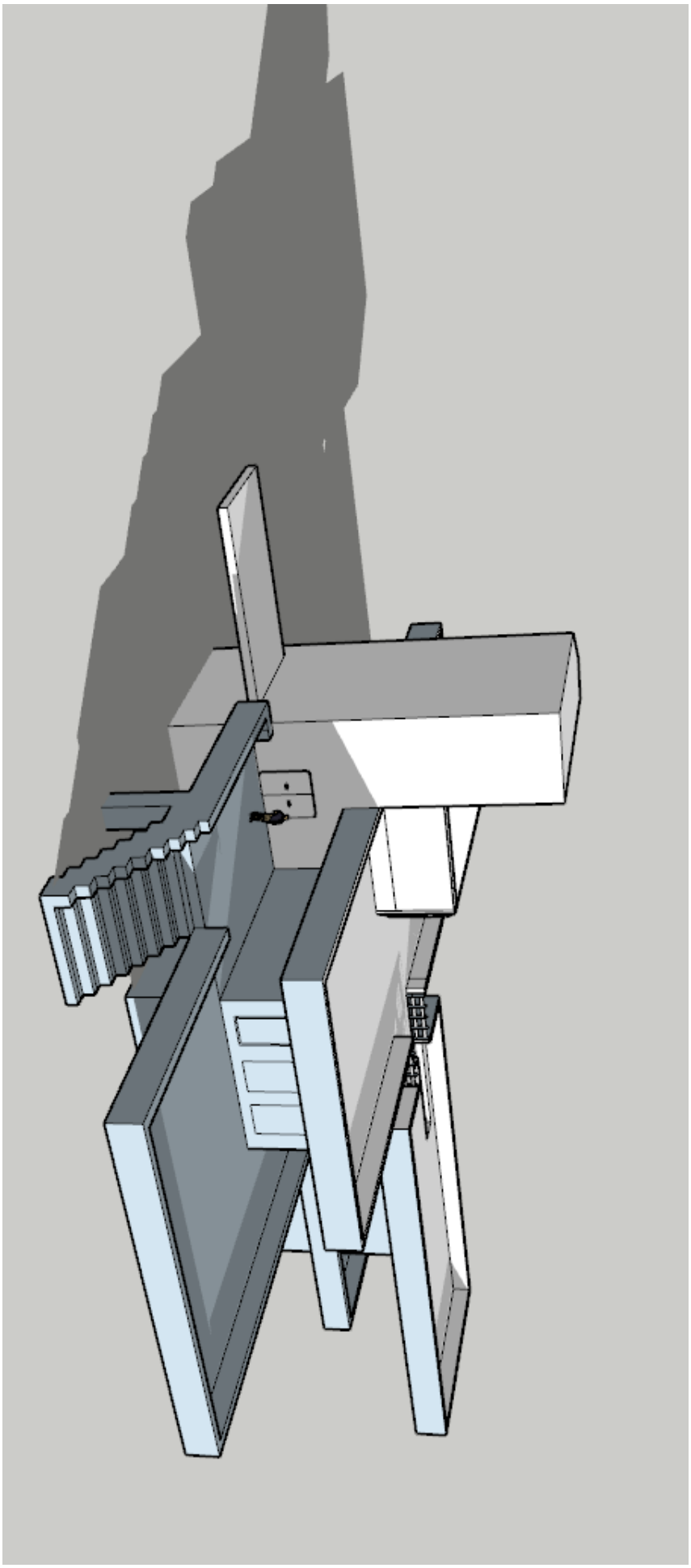
After this step, it was just a case of replicating then layers for 2 or so more times to give it the correct height. I added a tower in the back which houses stairs and also acts a focal point on the building.

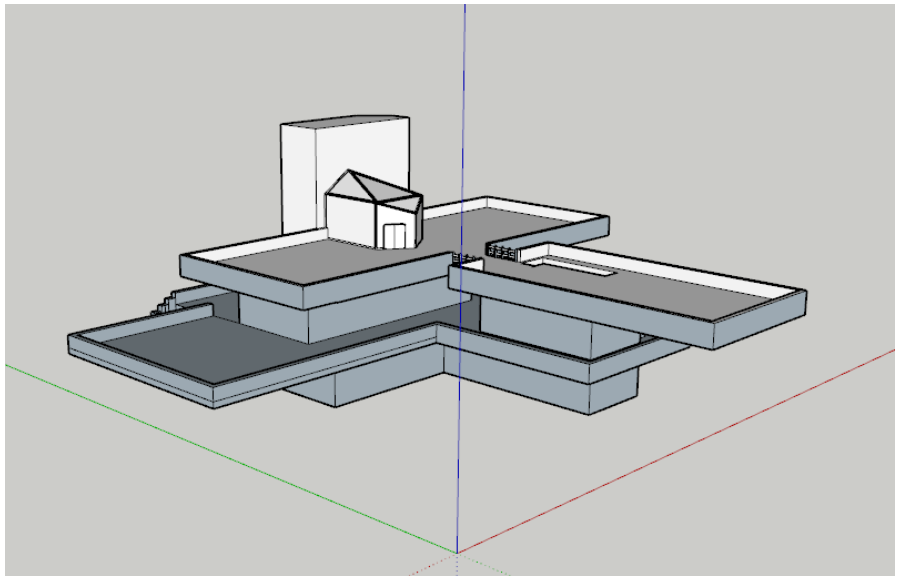


This was my basic first attempt at Frank Lloyd Wright's Falling Water. The basic shape of the model is there but it is way too basic. It has the extruding platforms and the layered structure, as well as the tower in the middle. As this was a first attempt, it was a huge loss to start again. I think I needed some time to adjust to the building style.

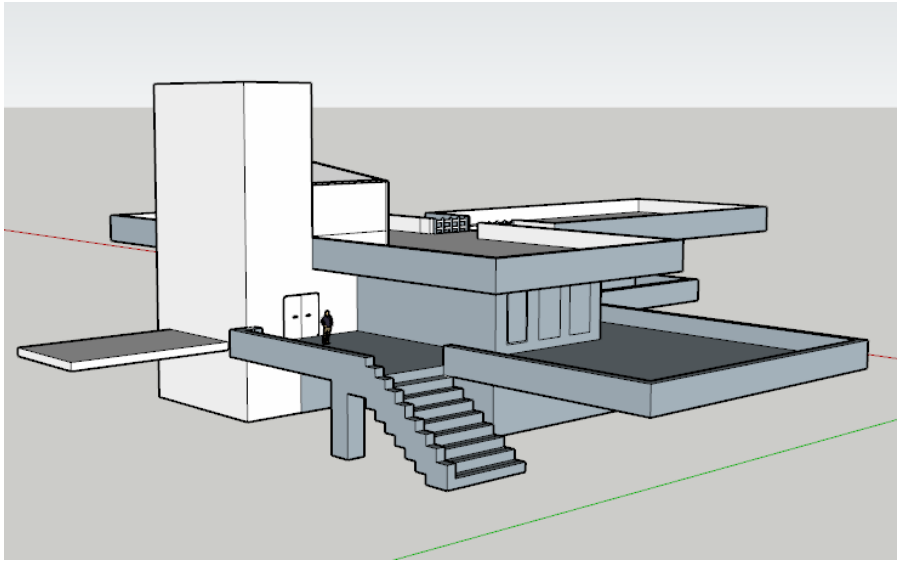
Falling Water Model 1

First draft – Frank Lloyd Wright Sketchup work





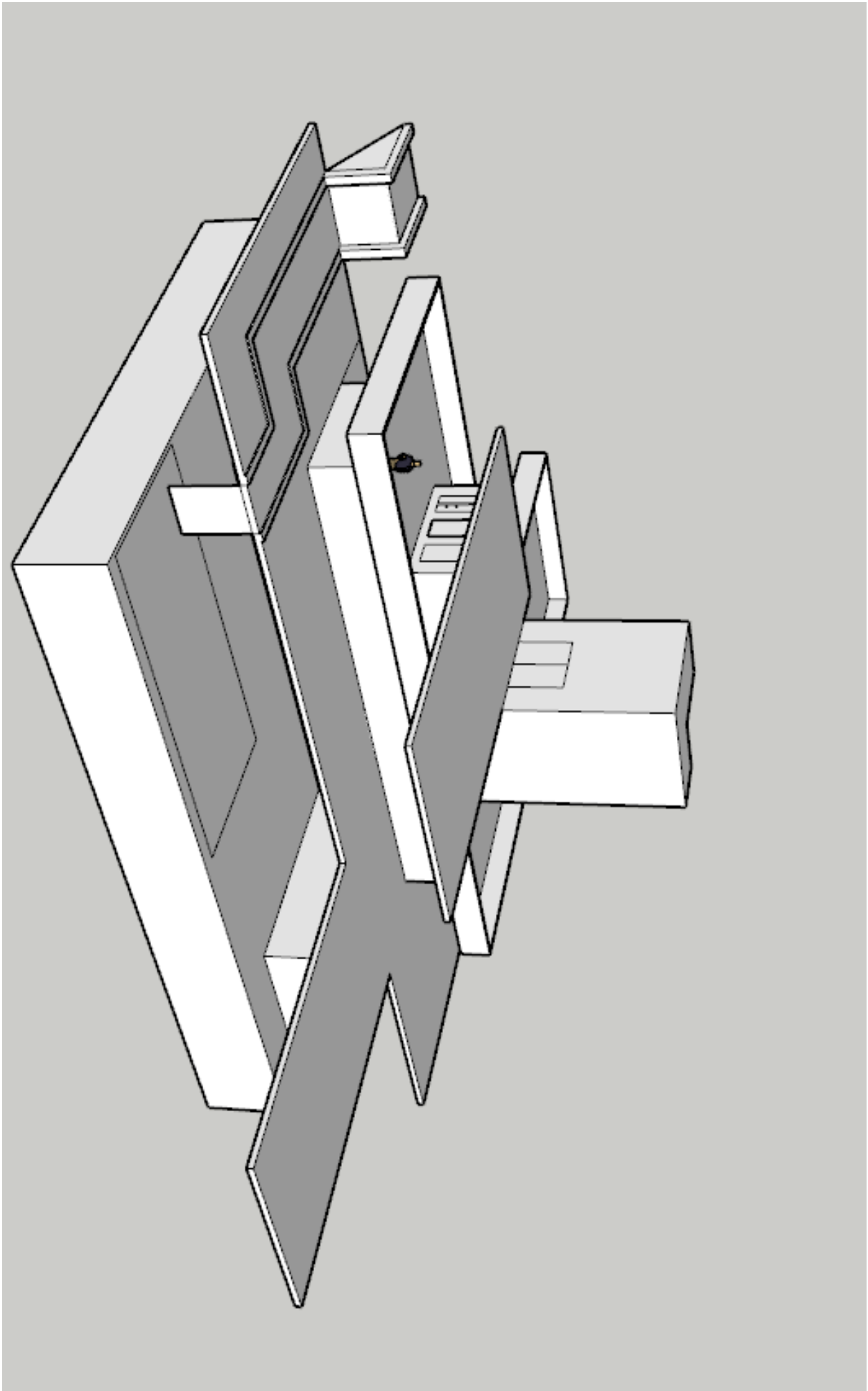
At this stage in my initial design, I felt I needed to restart as it was too dissimilar to Frank Lloyd Wright's design. I proceeded to make a new building which I think is progressing much better than my first one. The new one is much larger and more angular compared to its predecessor. I think was trying to be too clever and make it more complicated than it needed to be.

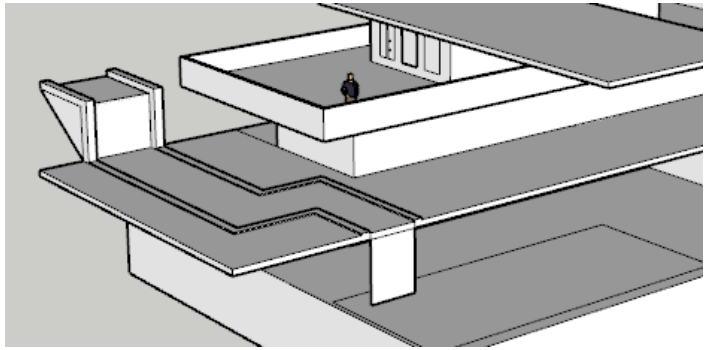


However, there are some similarities between this model and Frank Lloyd Wright's Falling Water. There are the different horizontal levels, as well as the large tower in the middle. This model could be made to work – but I just don't like the style this building has taken.

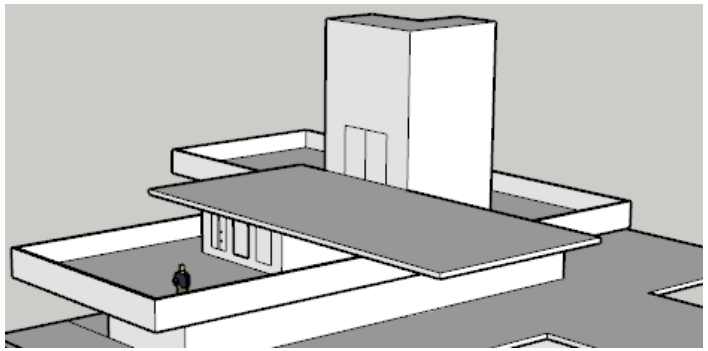
First draft – Frank Lloyd Wright Sketchup work

First draft – Frank Lloyd Wright Sketchup work

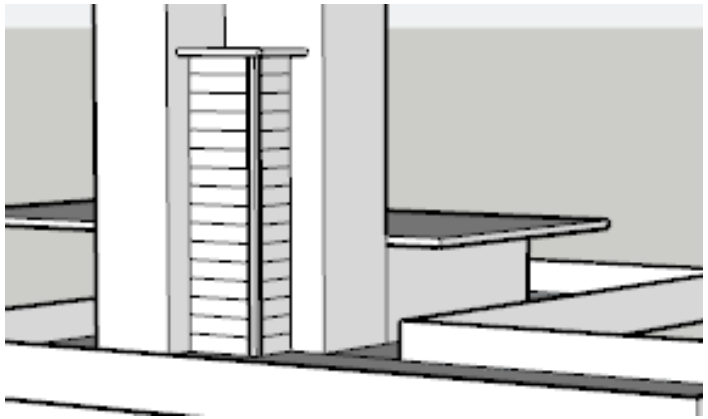




This is my third attempt at making Frank Lloyd Wright's Falling Water. I restarted again and created this model, which I was not happy with. I was trying to be too clever by incorporating a waterfall which fed into an infinity pool through the middle which altered its layout and I don't think I could've made it work.

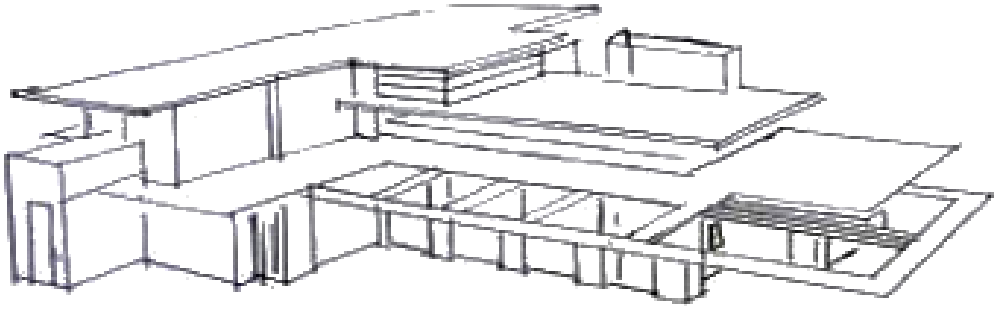


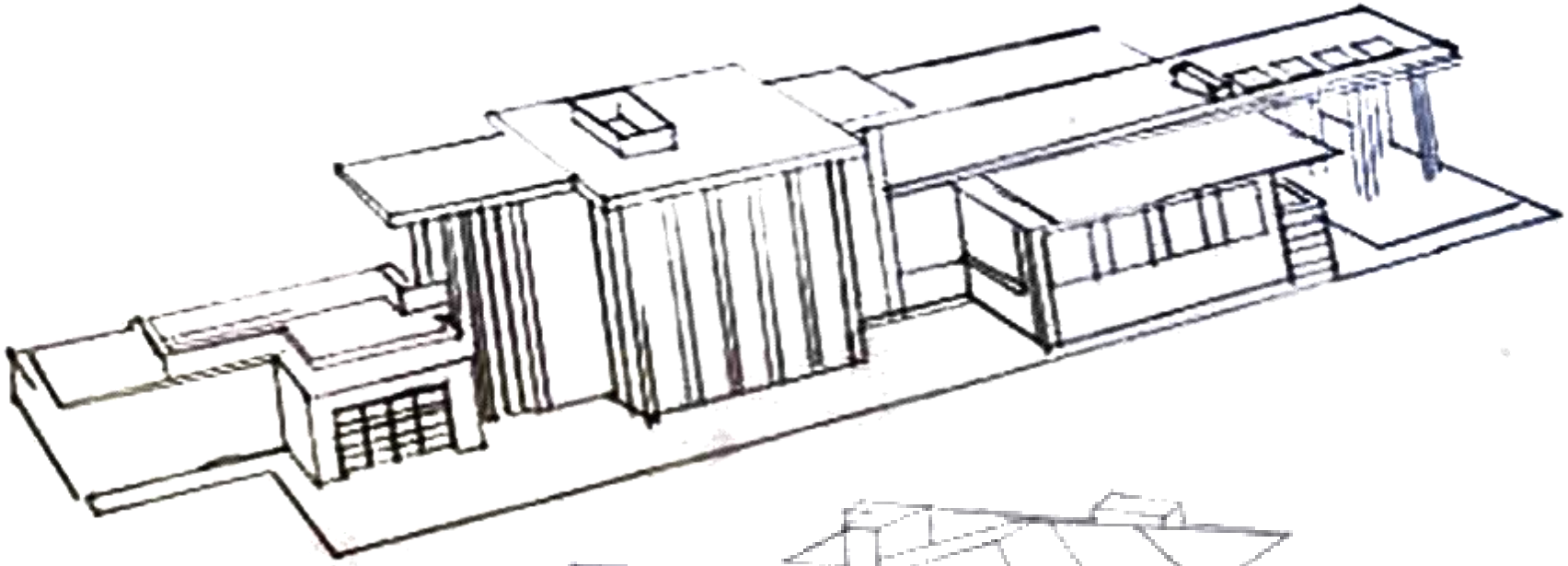
The model does still have the layers and levels with the large tower in the middle. I just wasn't happy with how they turned out. With a bit more work and some revamping, the model could become reasonably nice. However I don't like the multi-story style building.

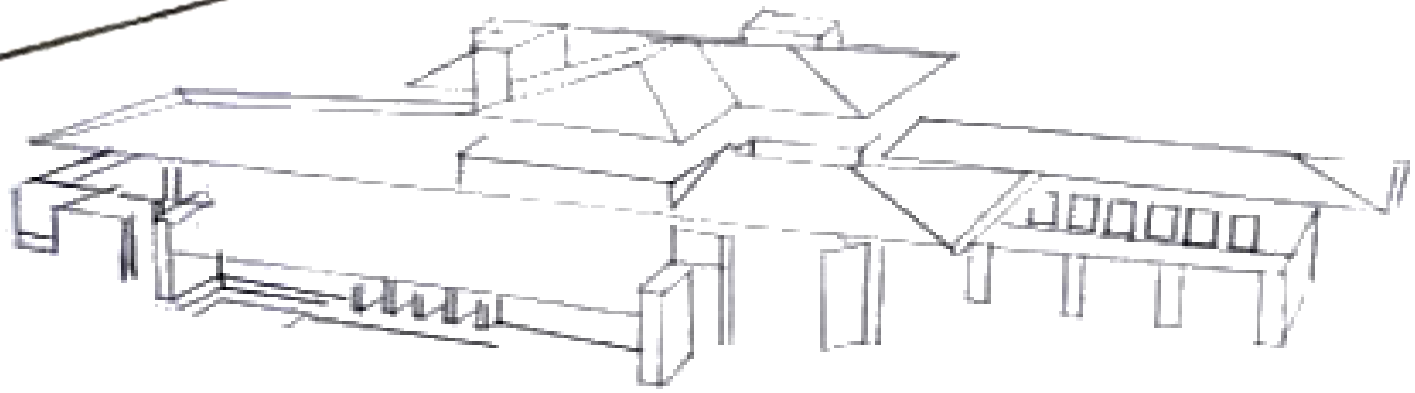


Although I have negative views on this model, I do like the window extruding from the tower's rear. If textured, it could add some nice detail and colour to the model as a whole.

This is a set of drawings showing various Frank Lloyd Wright and Prairie style buildings. They are very basic and probably should show more perspective and shadowing. However, they do show the Frank Lloyd Wright and Prairie style through their use of horizontal lines and pitched rooves. I hope to improve the shadow and perspective for later drawings.

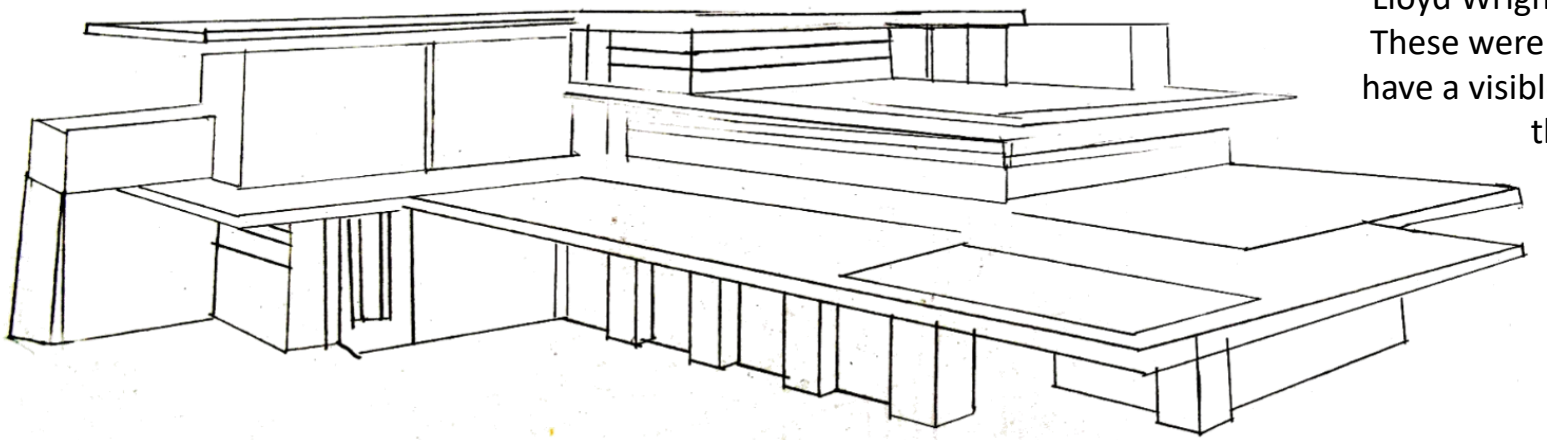


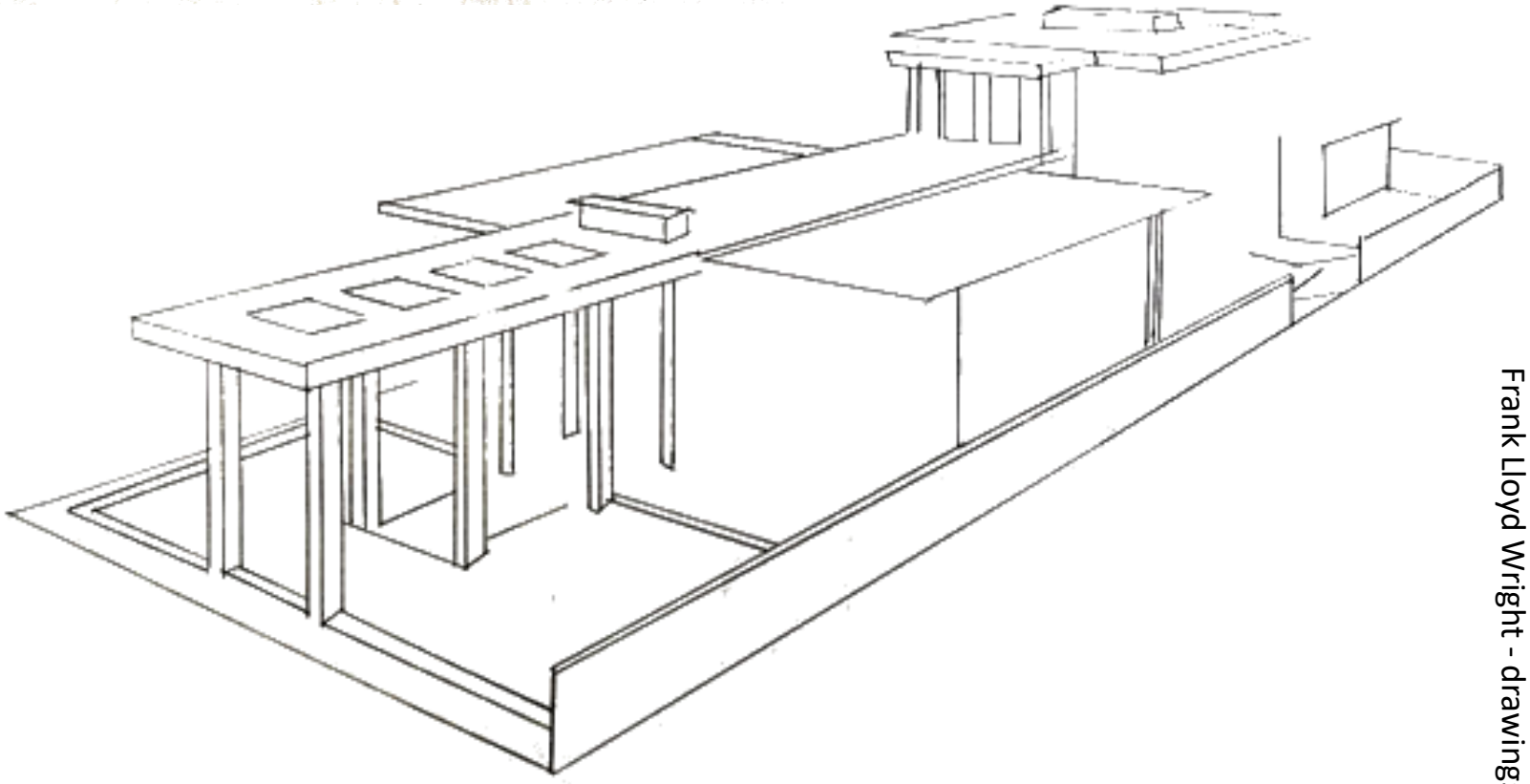




Frank Lloyd Wright - drawings

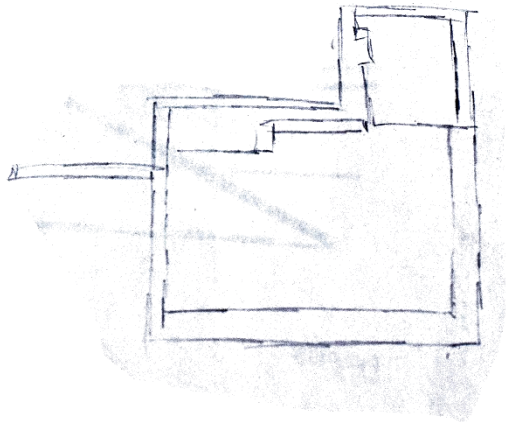
These are two more drawings of Frank Lloyd Wright and Prairie style buildings. These were drawn after my first set and have a visible improvement compared to the previous ones.

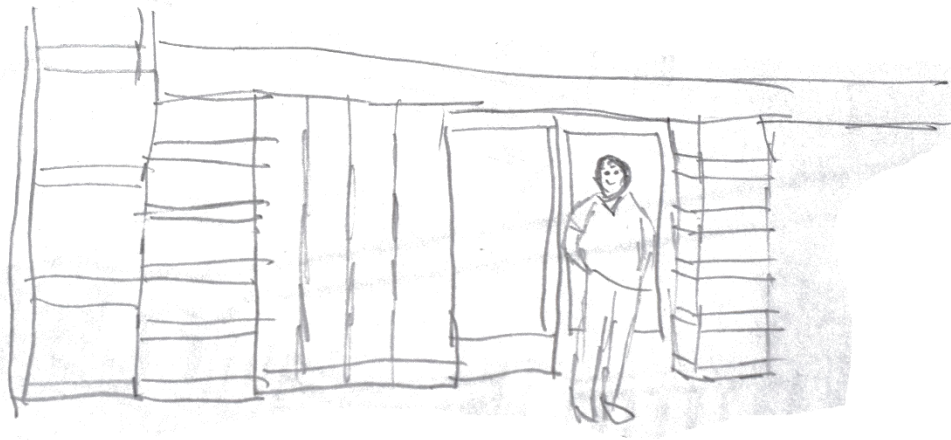


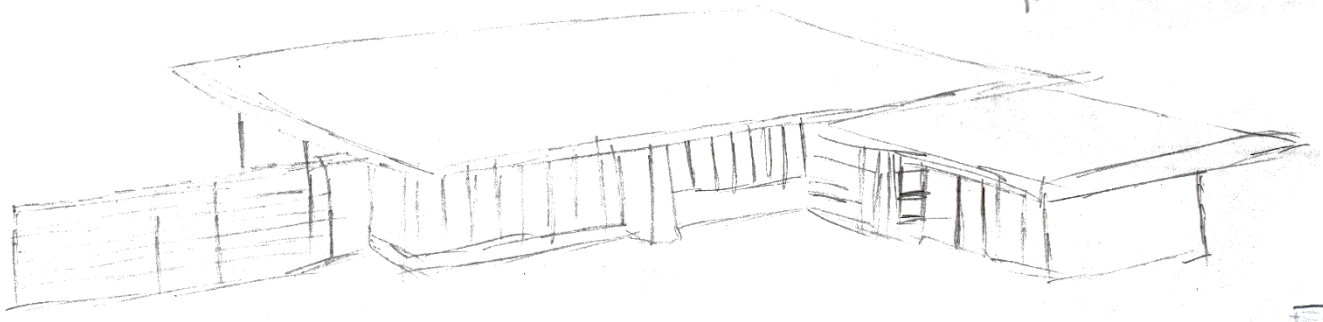


Frank Lloyd Wright - drawings

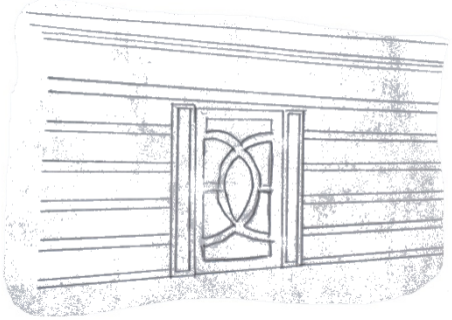
This is a very rough drawing of my Frank Lloyd Wright style building. It shows perspective and displays the building from a variety of different angles. I have also show scale by including the man Sketchup employs to stand there for scale. I also have a floor plan to show the rough shape of the model.

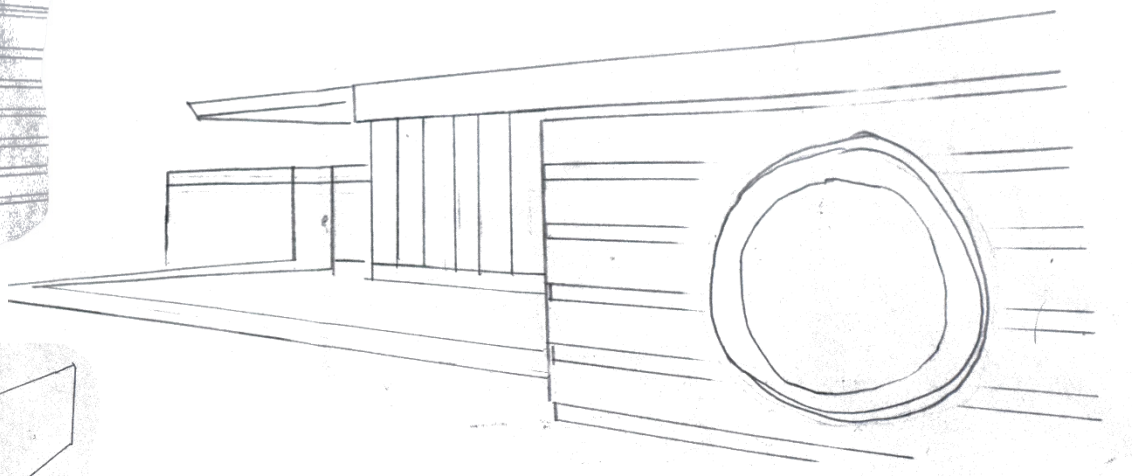


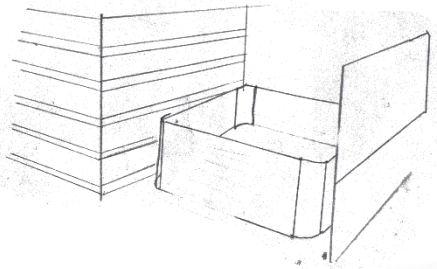


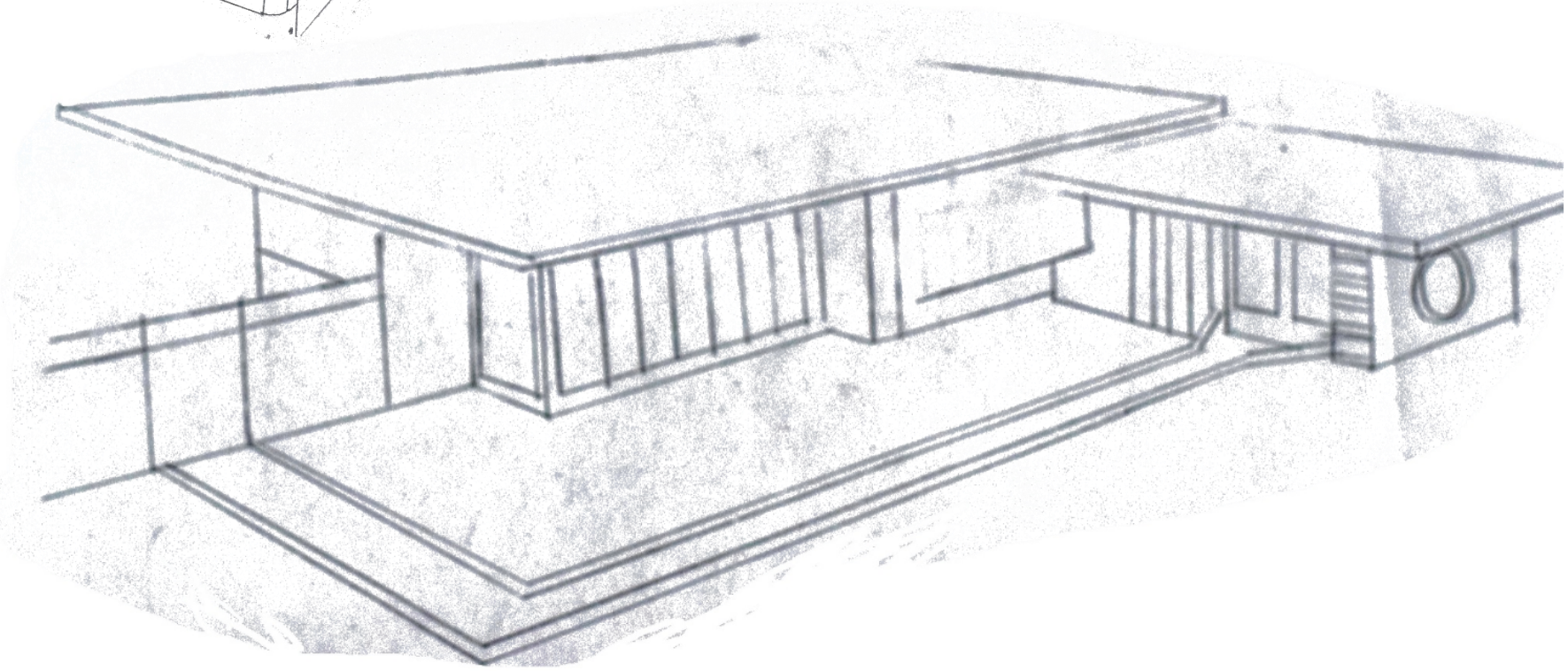


Frank Lloyd Wright - drawings







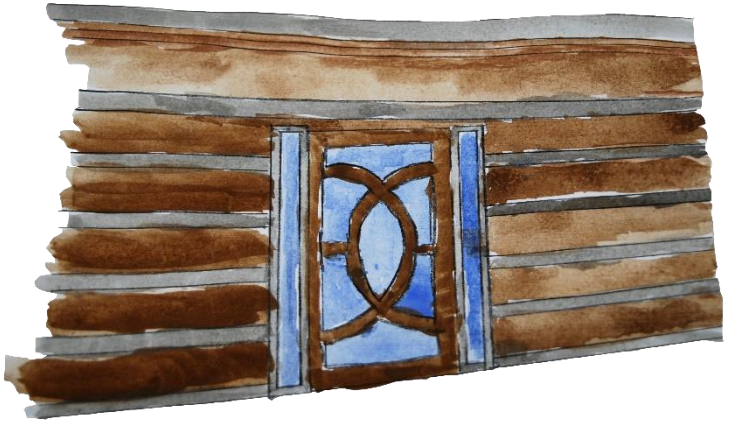


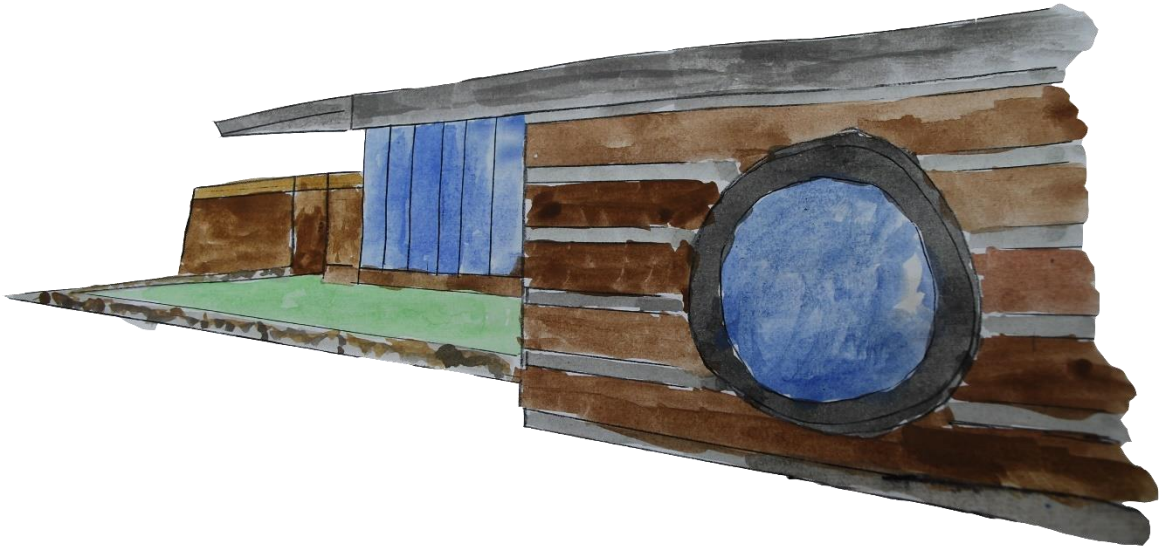
This is my neater drawing of my Frank Lloyd Wright style building. It shows perspective and is a much straighter and more professional drawing. It shows various angles of the building and provides a basic design for what I will base my work off of.

Frank Lloyd Wright - drawings

Frank Lloyd Wright - Watercolour

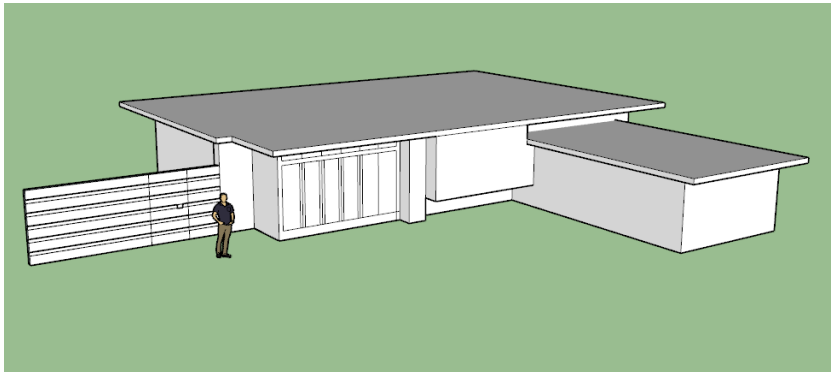
Using my drawings, I then created some watercolour painting to develop the colour scheme of the piece. I want to keep a contrasting theme of greys and browns with shiny metals and blue windows. I want a gravel pathway across the garden leading through the fence. As well as this, an area of grass in the garden.





Frank Lloyd Wright - Watercolour

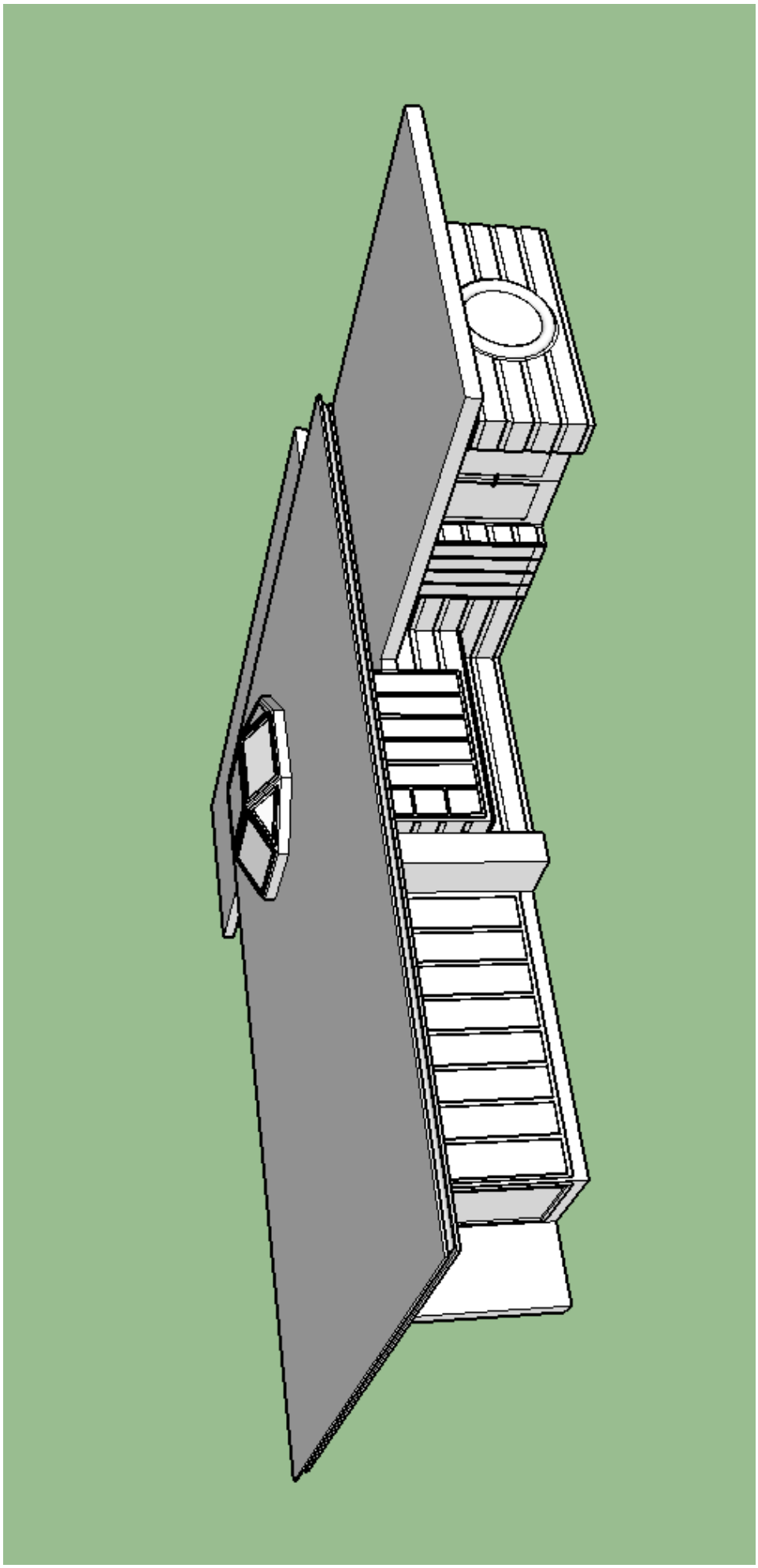
At this point I started working on a new building, Herbert and Katherine Jacob's First House. I prefer this bungalow style building as there aren't as many layers to its design. It has a similar window to empty wall ratio, which I am a fan of. Its slightly layered, overhanging rooves create a sheltered feel across the entire house.



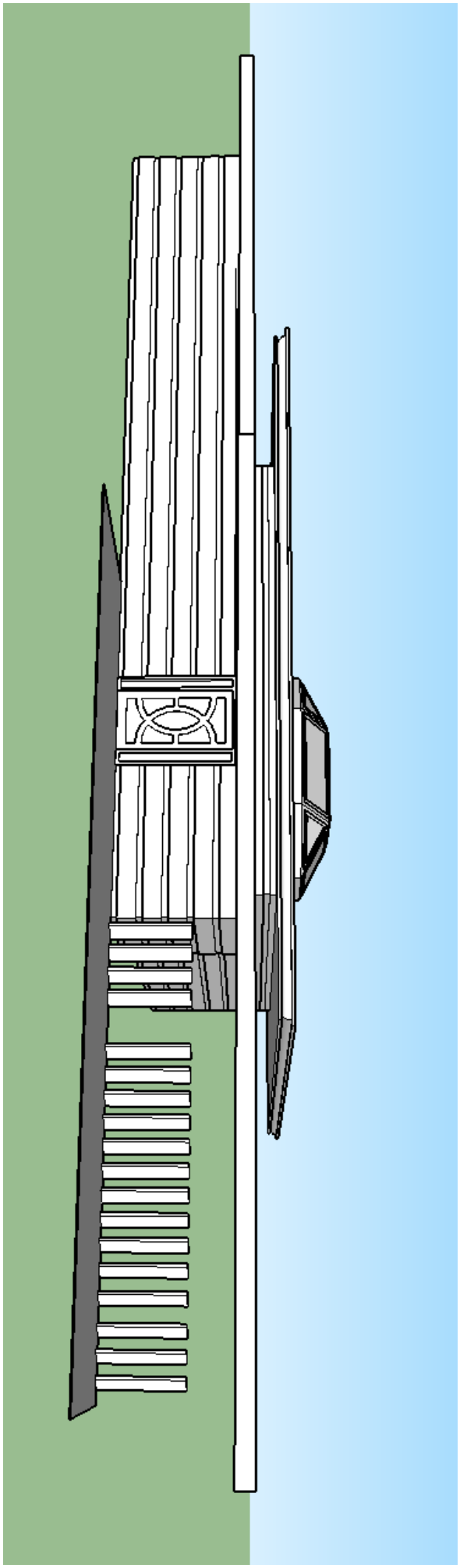
This is my first draft at the main shape of the building. It has a basic layout with some planning of window position. The shape itself is mainly composed of rectangular shapes, with no real circular features to it. Compared to Falling Water, this buildings style is very reserved, meaning its not got many parts sticking out. Whereas, Falling Water has balconies sticking out everywhere.

Frank Lloyd Wright – Skethup Model 4

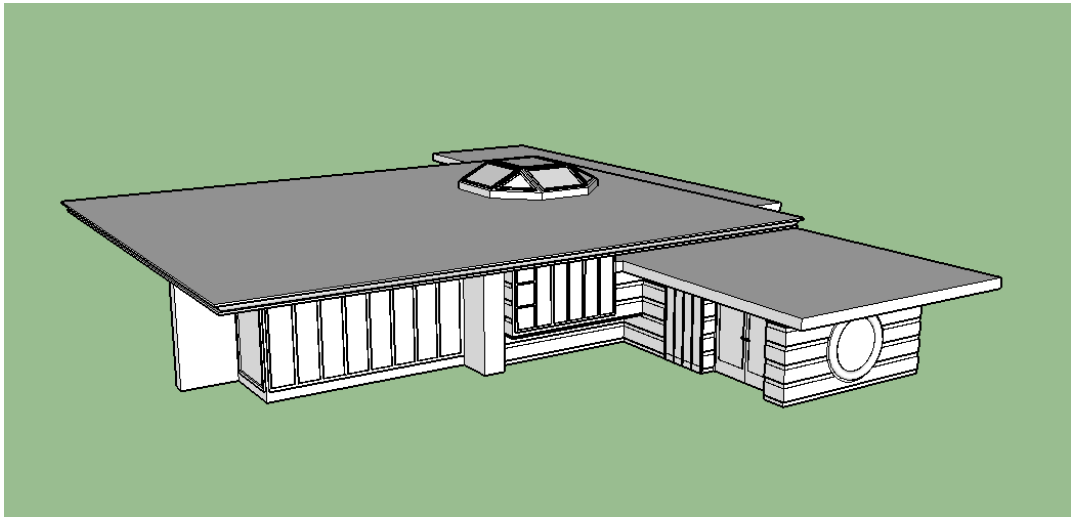
Frank Lloyd Wright – First digital render



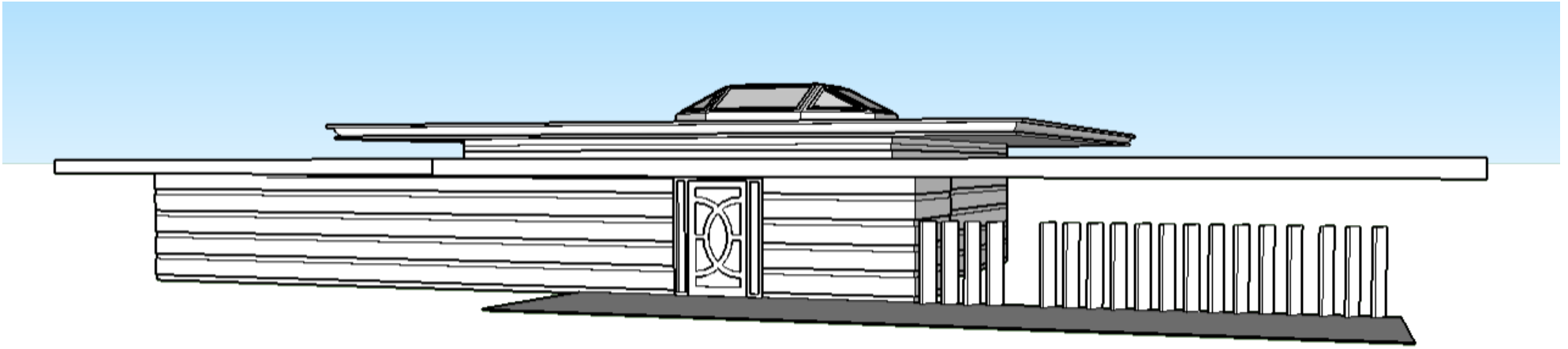
Frank Lloyd Wright – First Digital Render



This is the view from what would be the house's back garden. It features many tall windows which look onto the garden. The doors to access the garden are inset into the building. There is a large circular window which I imagine would look over a shallow valley. The main structure is taller than the right hand side as this will be the main living area. On the highest section on the roof is an octagonal skylight which allows light to pass through into the kitchen area. Throughout the model are large stone pillars to add contrast to the cladding style on the edges and for structural support.



The front door has a curved, circular design which is intricate and exhibits many advanced skills. The driveway has a large overhanging roof to allow for rain protection. Along the driveway are angled pillars which allow for some protection from passers by and also create nice shadows on the driveway.



Next I will add texture to this model so that it gains a higher sense of realism. The texture will add definition to certain parts of the model and compliment its design features.

Frank Lloyd Wright – First Digital render

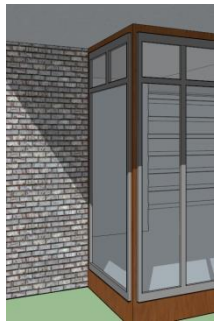
Frank Lloyd Wright – Textures

These are the textures Frank Lloyd Wright uses on his building. I still would like to use the wooden texture as it is a prominent part to the building, but as it is my interpretation of the model I intend to change a few things.

In between the lighter coloured wood planks, I will change the colour to a medium dark grey. I feel this is a nice contrast to the wooden colour and it also adds my own twist to things.

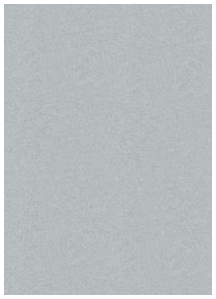
Where there is a red brick, I will use a stone coloured, tumbled brick as I feel it increases the comparison between the two textures and Sketchup doesn't have a texture that I feel fits this situation.

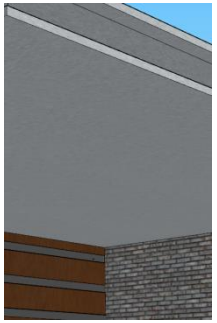
The roof is also a wooden/brown colour, so I will change that to a zinc style, metallic coloured texture as it increases the variation of colour throughout the model.



Brick Tumbled

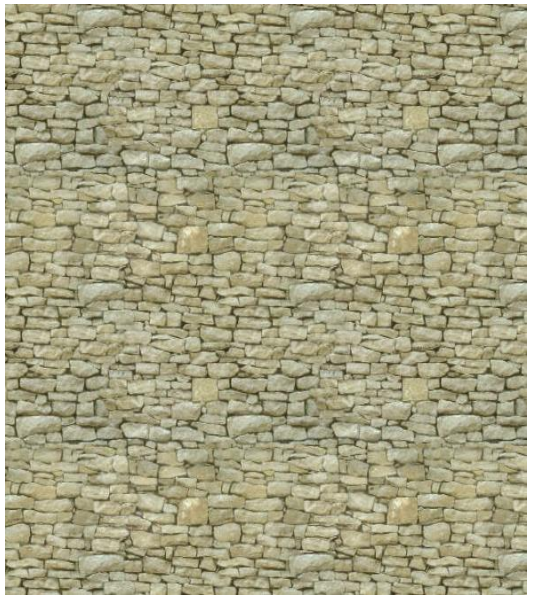
Wood Veneer 01





Steel Brushed Stainless

Wood Veneer 02



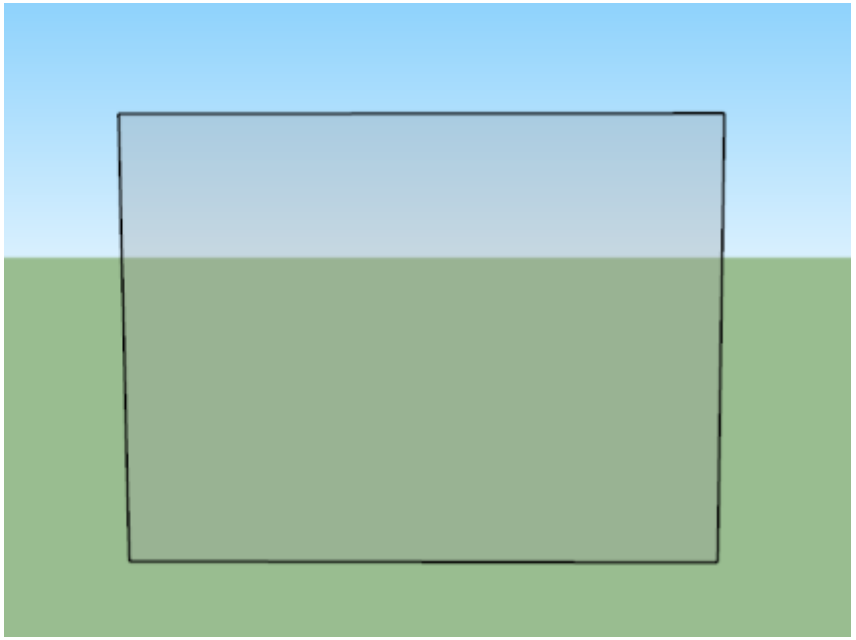
Stone Sandstone Ashlar Light

Colour M05

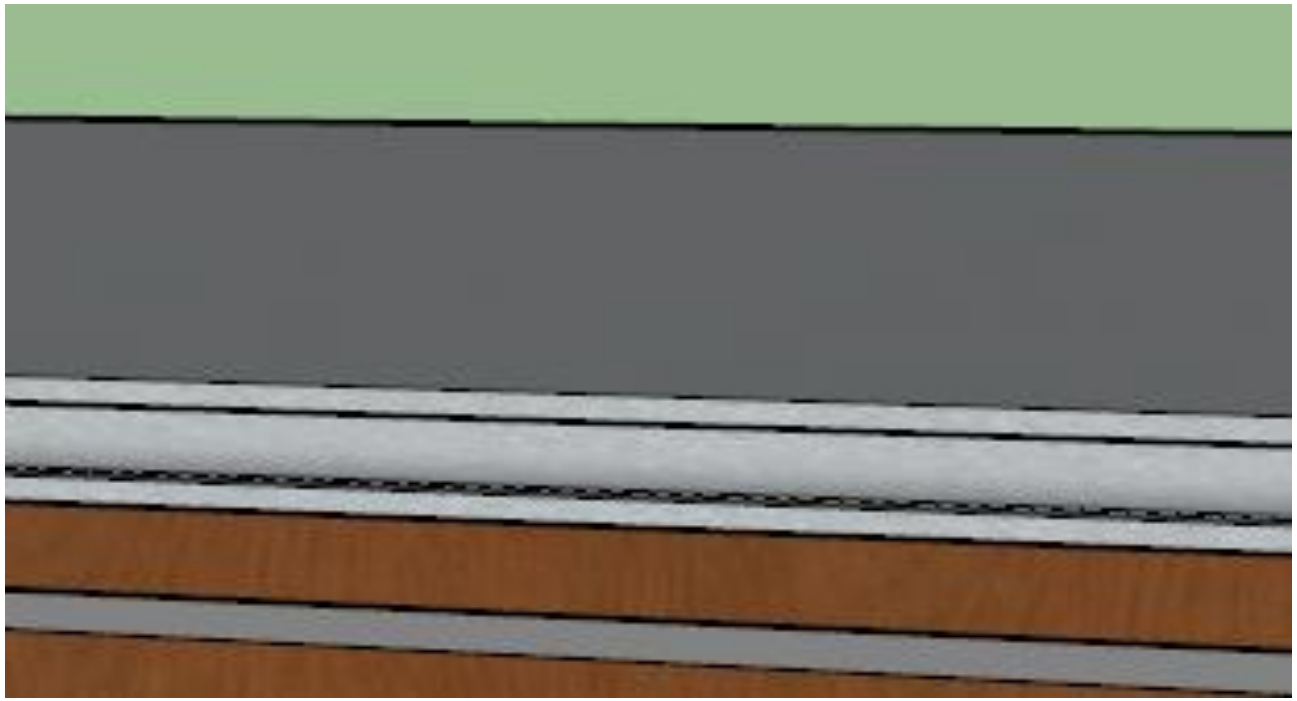
Frank Lloyd Wright – Textures

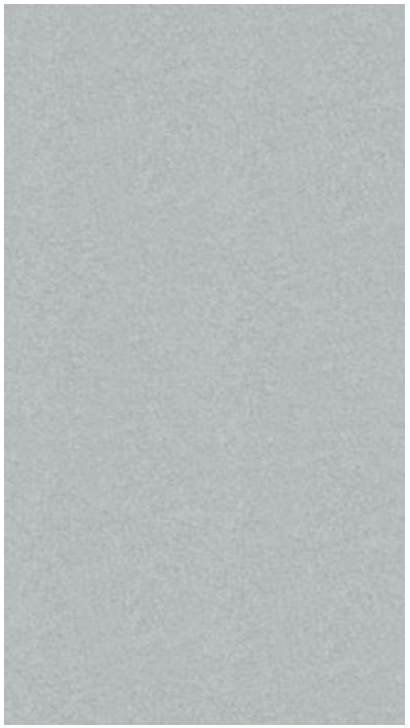
Creating a render in Sketchup allows me to add textures to the exterior of the model. I have selected these three as my primary textures. I have also added a grey tinted glass to anywhere where there are windows.

I am choosing these textures as they are the type of textures Frank Lloyd Wright uses in his building.
I personally like the contrast between the wood and the grey texture as they compliment each other nicely. The textures add a sense of realism to the model rather than having it look like a cluster of white boxes with window frames and rooves.

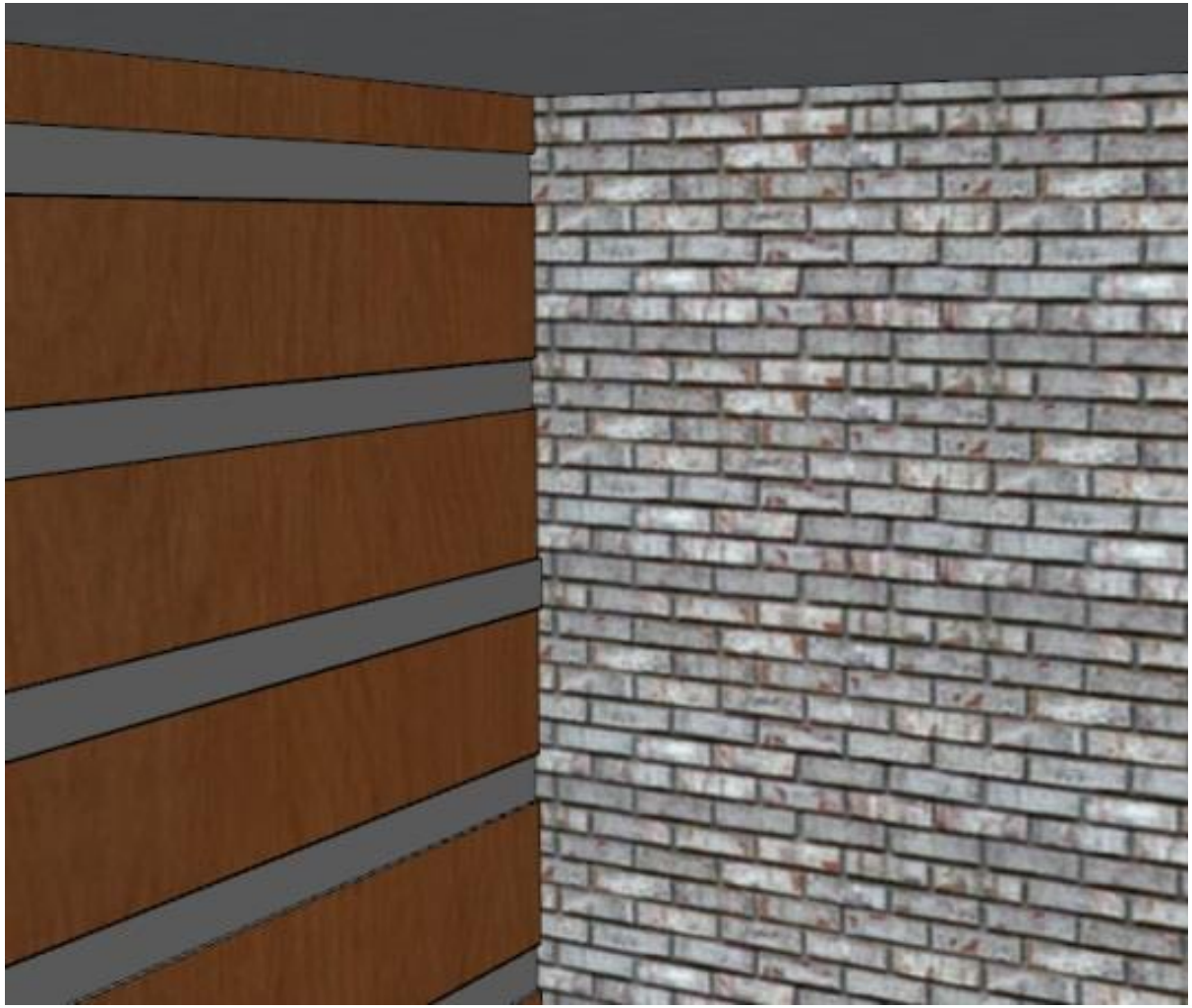


This is the style of glass I intend to use on my model. It's a tinted grey coloured glass which looks nice against the grey window frames, but I also chose this as Sketchup doesn't have an extensive range of glass textures.



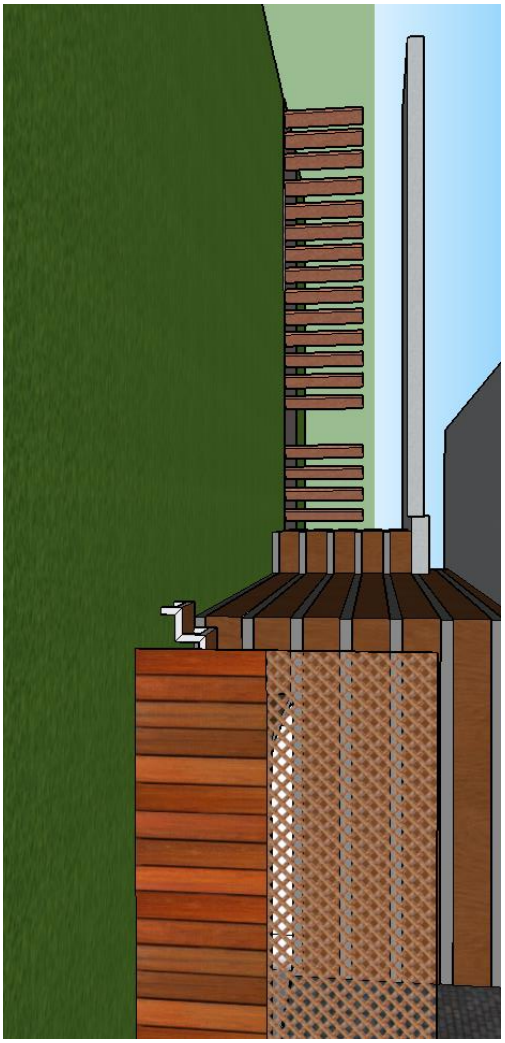


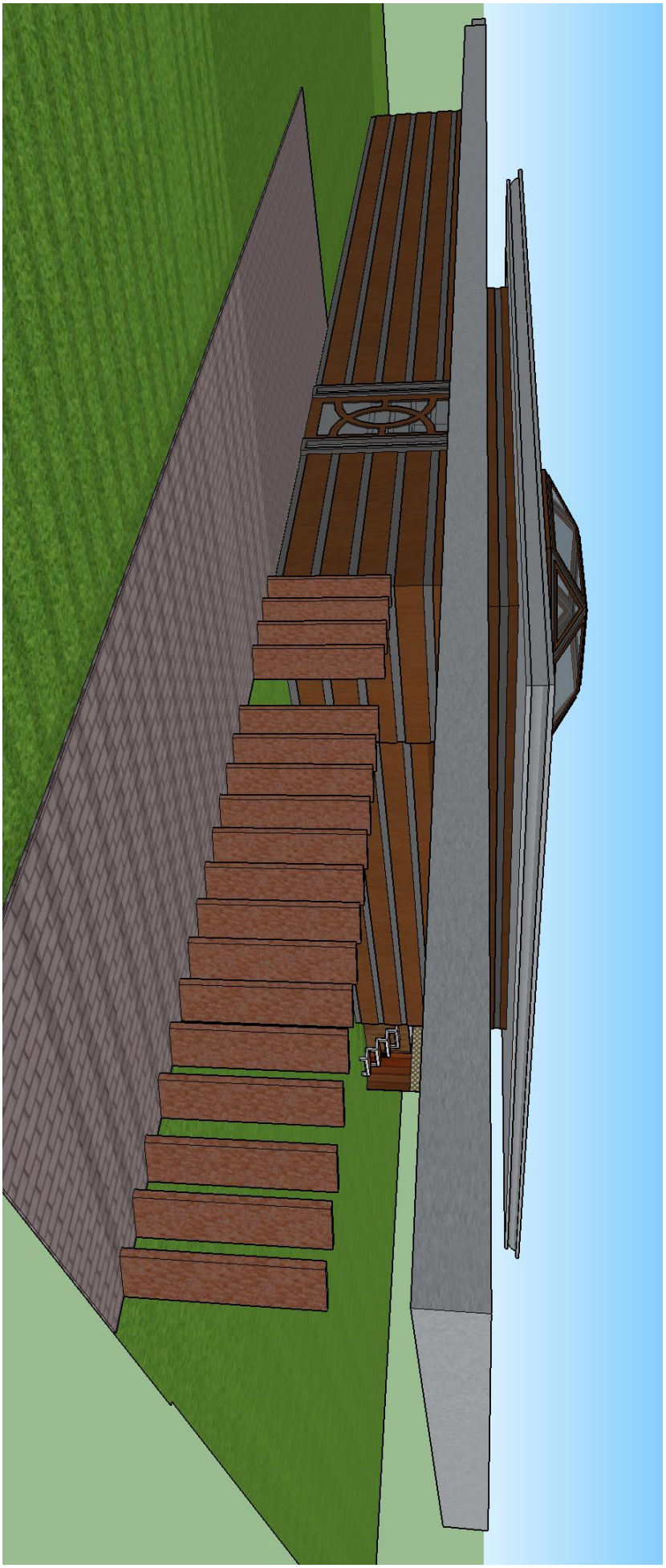
The roof is a major part to this model as it takes up a lot of space and is a vital contrast to the main body colour. The use of a zinc style colour increases the variety of textures in the model, whilst giving the roof a unique style.



These sections of large stone pillars appear frequently around the perimeter of this Frank Lloyd Wright model. This is a design feature that is prominent within the model and he use of a completely different style of texture really makes them stand out.

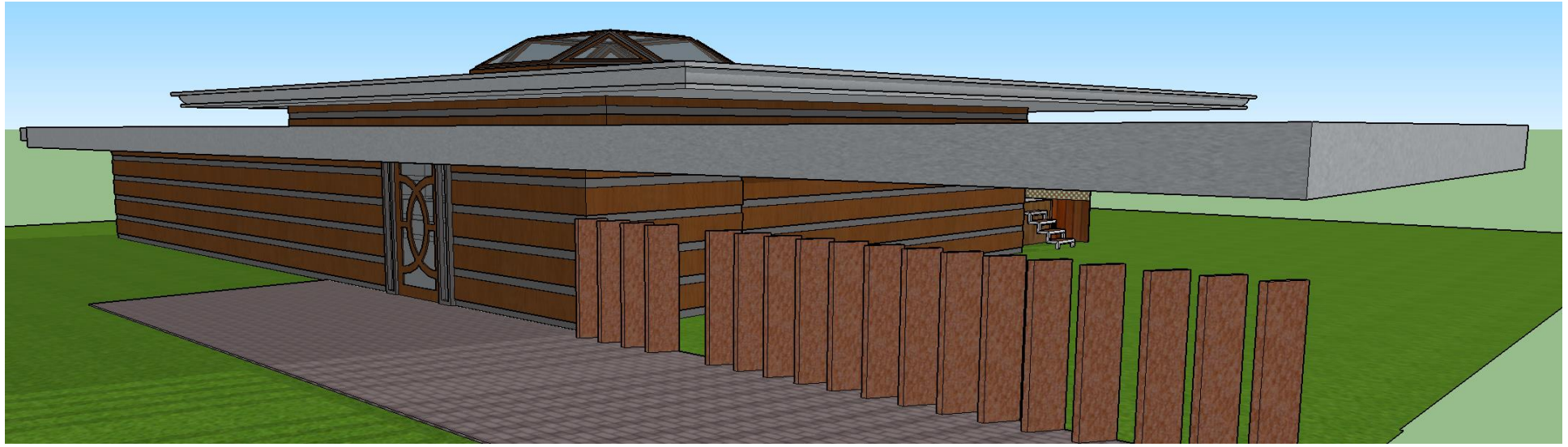
Frank Lloyd Wright – first digital render + texture





Overall, I believe this model turned out better than my other ones ever could. I really like how the textures contrast each other and how certain design elements create beautiful shadows, which in my opinion, adds realism to this model.

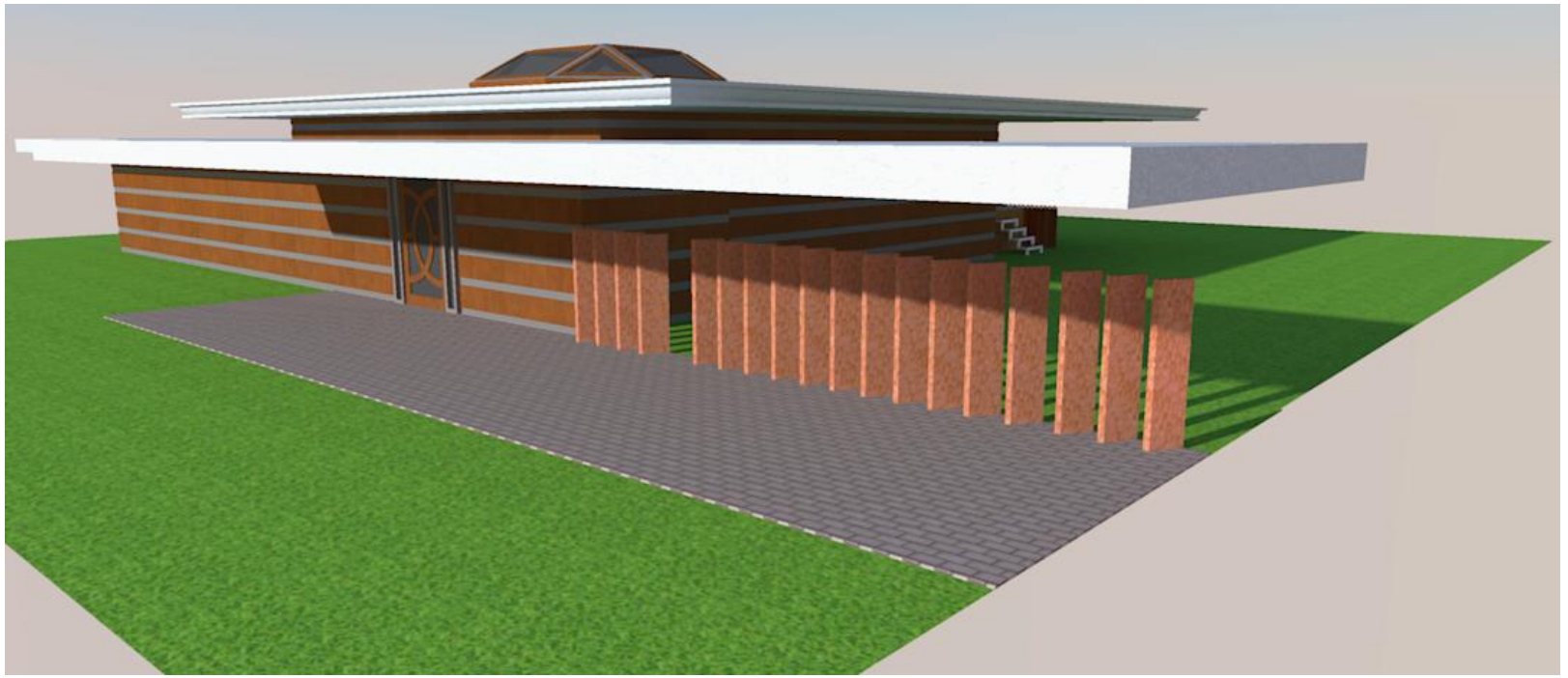
This is my model but with added texture and shadows. When looking inside, you can see where light from the skylight would pass through. The stone texture on the various pillars creates a wonderful contrast between the wooden cladding. The zinc coloured roof also aids this contrast nicely. Towards the front of the buildings, you can see the shadows the rusted metals pillars produce. There are a few improvements that could be made however. I think I made this model far too small compared to Frank Lloyd Wright's original design. I'd also like to improve the garden by rearranging where I positioned the hot tub and garden dining set.

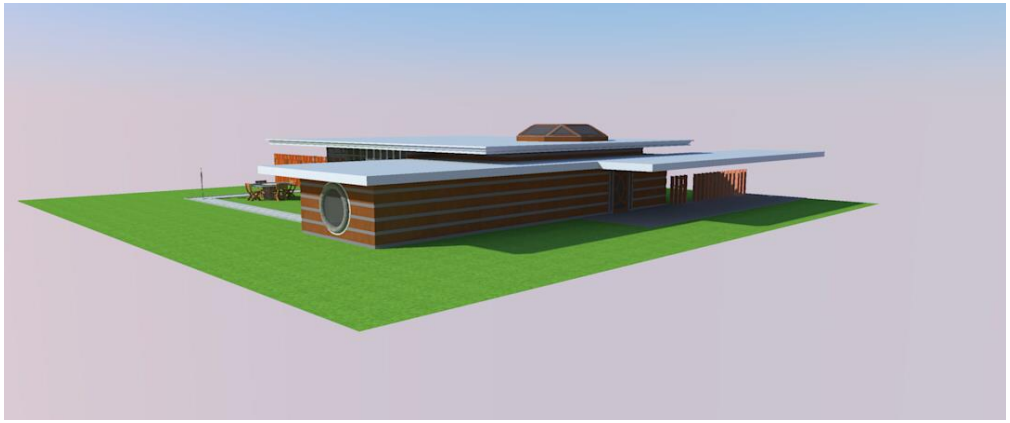


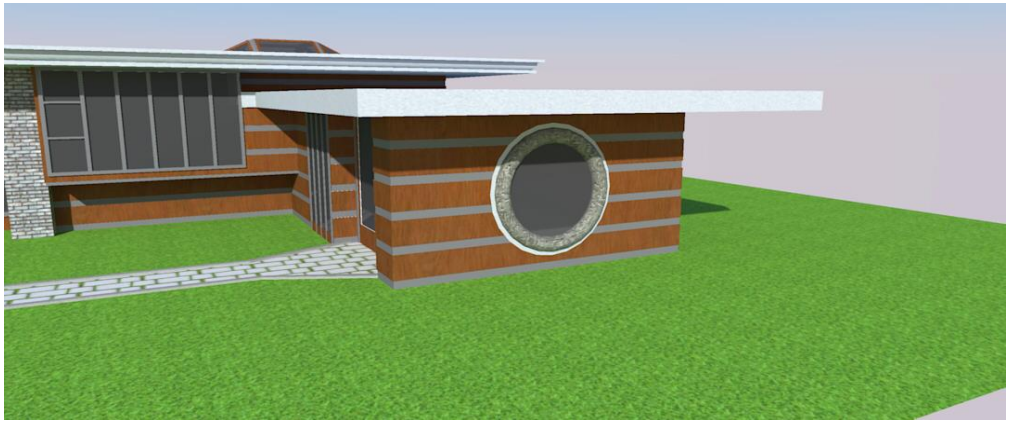
Frank Lloyd Wright – first digital render + texture

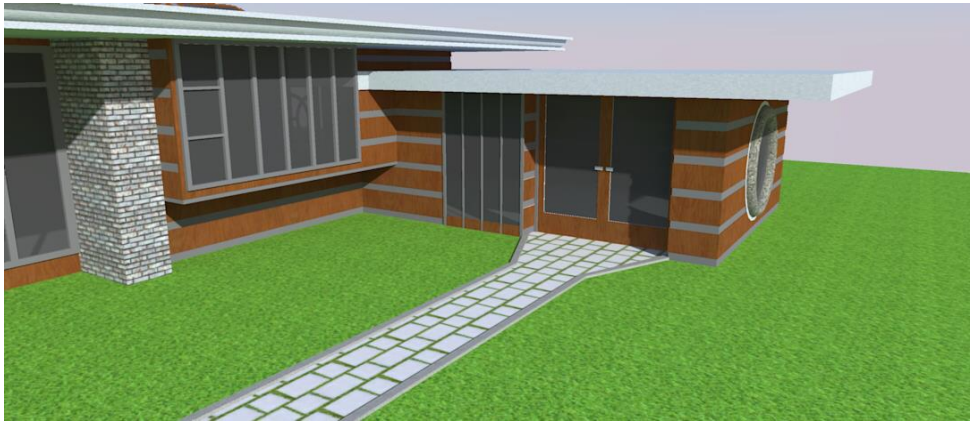
I then made some nicer renders in a Sketchup Extension that shows the textures in better detail. The shadows created by the lattice patterned fence and the metal pillars next to the driveway show up really clearly in these images. Although these renders allow for a clearer and nicer view of the models textures, it doesn't show the depth of the model very well.

Frank Lloyd Wright – Twilight V2 Renders





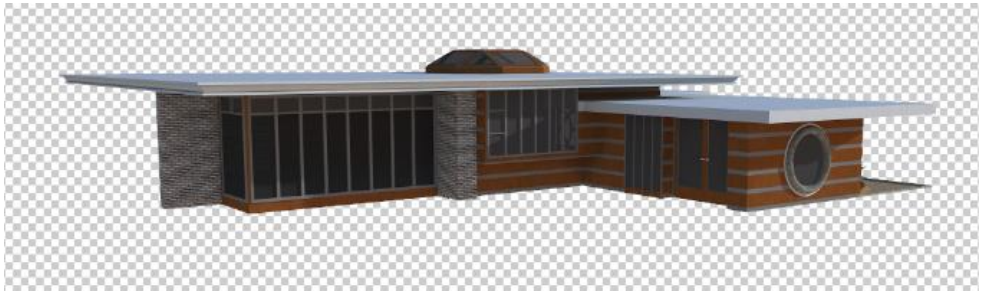




These are some more renders at different views of my model. Overall it does make the model look cleaner and sharper, but it doesn't allow for sight into the windows. The render software however does create pretty sunset style backgrounds – if these reflected off of the windows it would make the model feel almost warmer.

Frank Lloyd Wright – Twilight V2 Renders

Frank Lloyd Wright – Twilight V2 Renders



Using a camera, I went up on to our school field and took a picture of the flattest area possible. Using this image, I wanted to superimpose my model onto the landscape to provide a mocked up sense of realism. This could used to show a potential client and used as a visualisation document.

Before I start work on the model, I had to first clean up the image of the field. In Photoshop, I cropped the arched corners. This was created through the use of a screw on wide angle lens that attached to the front of the lens. I then used the healing brush tool to get rid of the white markings on the grass.

I did another render of my model in Twilight Render V2 with some better texture editing. I then took it into photoshop, and by using a combination of the polygonal and magnetic lasso tool, I created a transparent back which means that the model can be put cleanly into the terrain.

Once I had made this transparent, I had to place it onto the landscape and make it the right scale and perspective. This meant it was in the correct proportion to the trees and surrounding path.

Frank Lloyd Wright – Twilight V2 Renders

Frank Lloyd Wright – Twilight V2 Renders

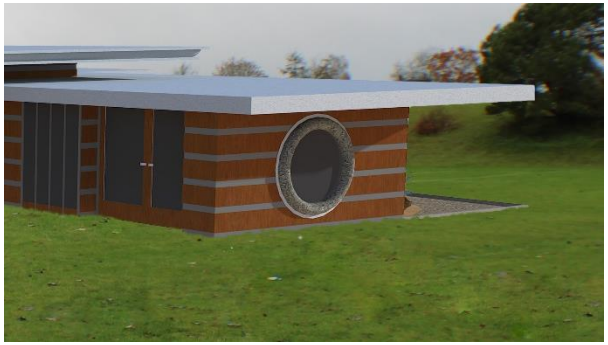
Frank Lloyd Wright – Twilight V2 Renders

Using the components made on the previous slides, I could create this visual for the model. Due to the model having a transparent back, I could lay it straight onto the landscape.

I readjusted the scale of the model to fit into the space on the field to make it look less out of place. As well as this, I played around with the perspective tool as well so that it matched the terrain in the picture.

To reduce the image looking blocky and as if it was directly placed on top, I used the eraser tool to make it as if grass was growing up around the edges. This creates a more lifelike image as the building hasn't just been placed on top.

However, this image will never provide a brilliant representation as the renders are not the best and the shadows are not right for the image. The textures on the model are a bit blocky and repetitive – and don't show much texture. Its not great – but it does what it is meant to do.



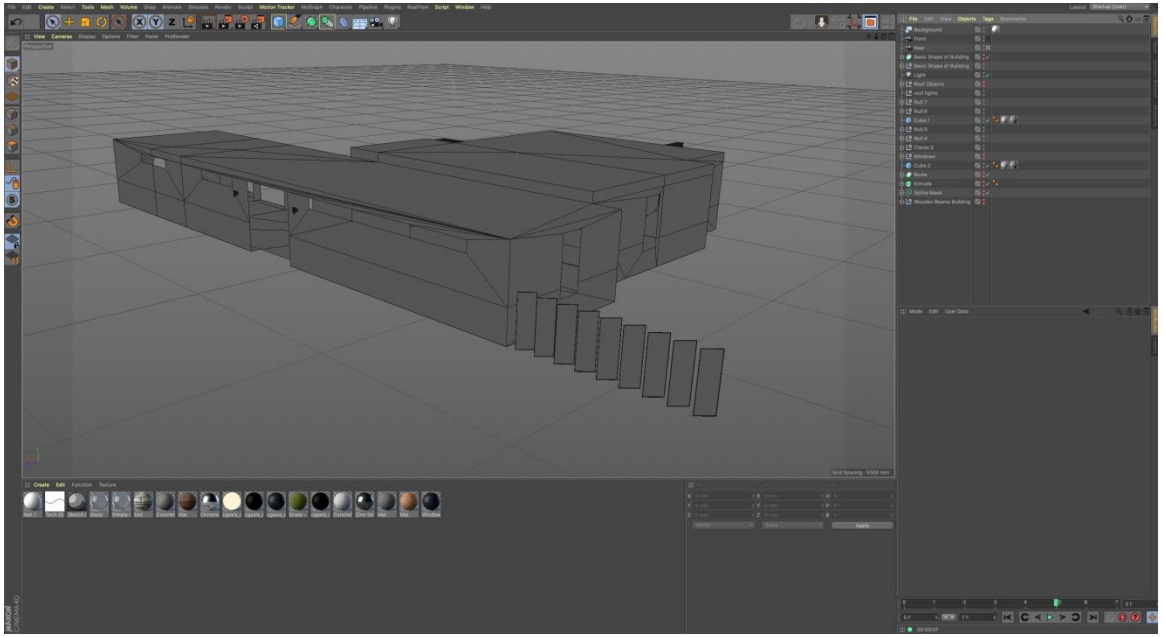
Frank Lloyd Wright – Twilight V2 Renders

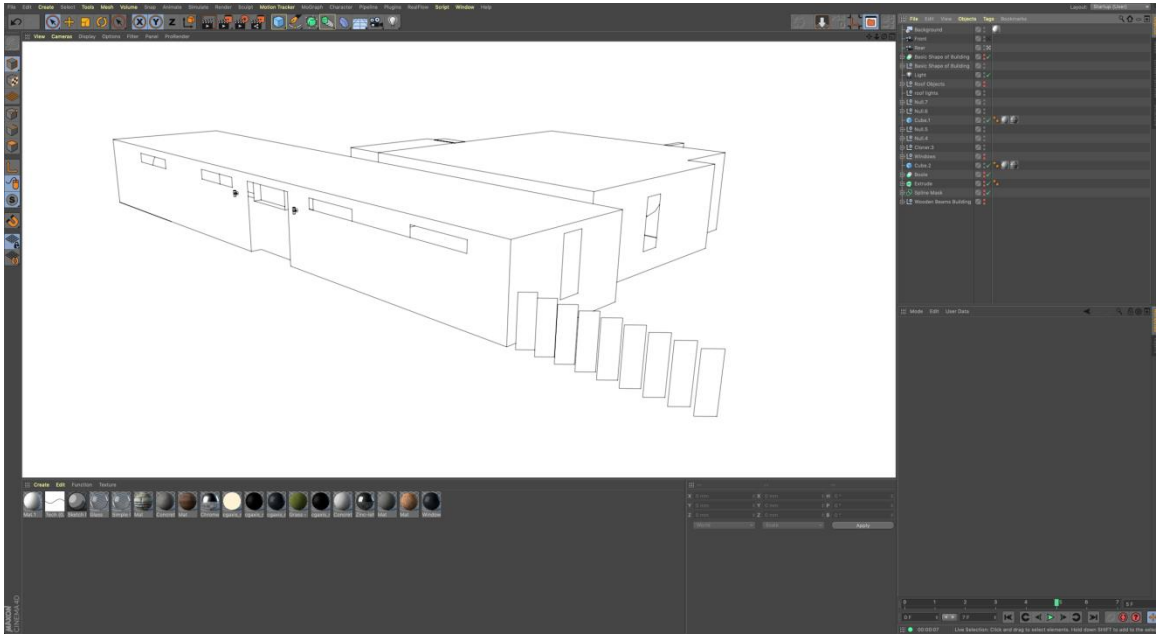
Frank Lloyd Wright – Cinema 4D

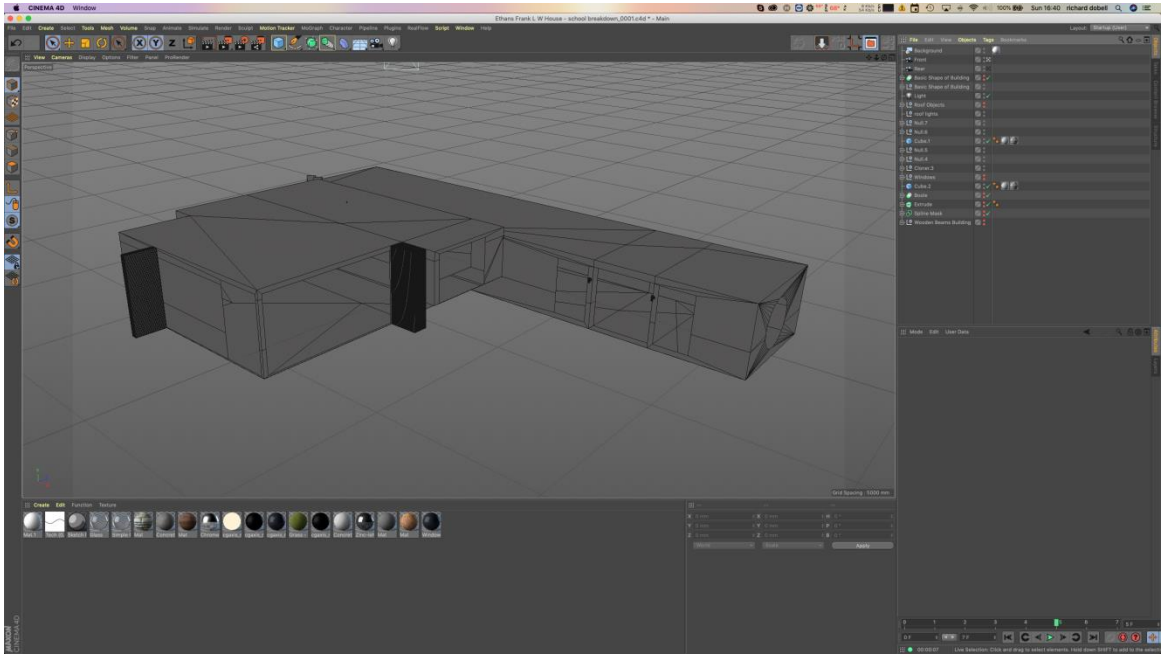
Using my Sketchup model, I can now make a more detailed and in-depth version of the design. Cinema 4D is an advanced piece of 3D modelling software that can be used to make really realistic models.

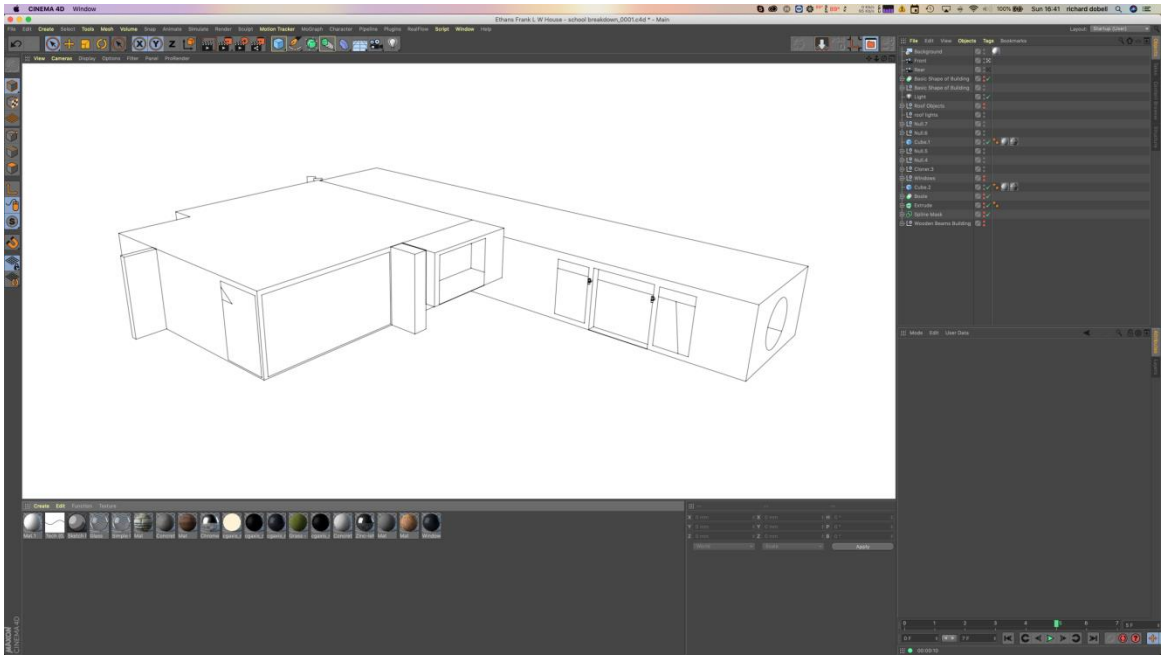
Here is the a basic layout of my model. It has the angled pillars next to the driveway and keeps my Sketchup model's main shape and height. There is also room allowed for doorways and windows.

Underneath is a basic Line Render of this first model. This gets rid of the excess geometry and only shows the main lines and shape.



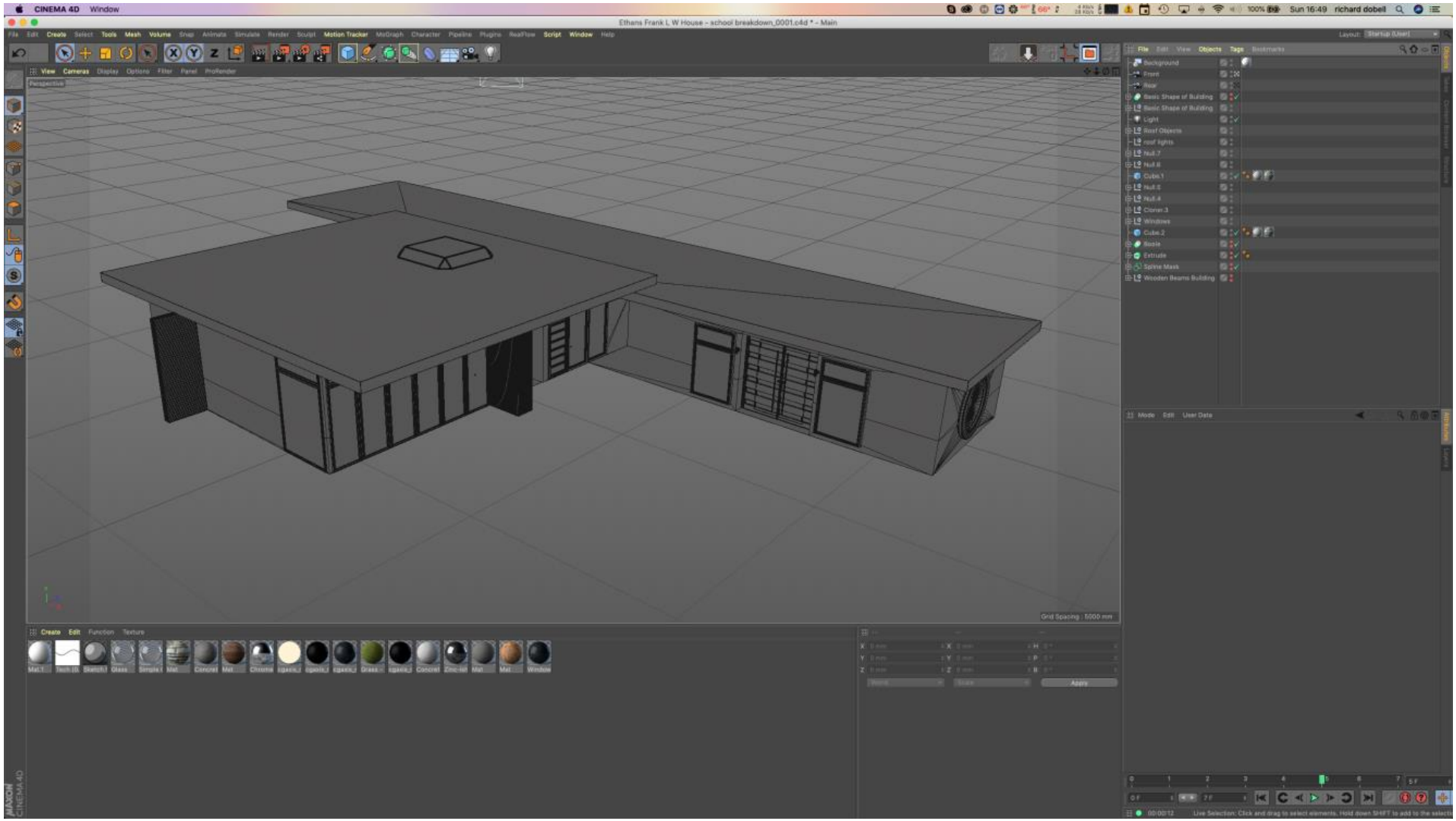




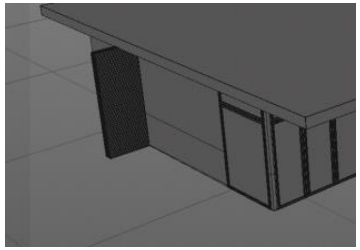


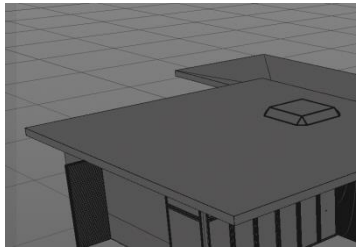
This is what would be the back garden for the house. The back still has the prominent stone pillars and the circular window at the end. The right side of the building was extended slightly to as I realised my Sketchup model was a little bit too small.

As before, underneath is a Line Render, removing the extra geometry from the model.



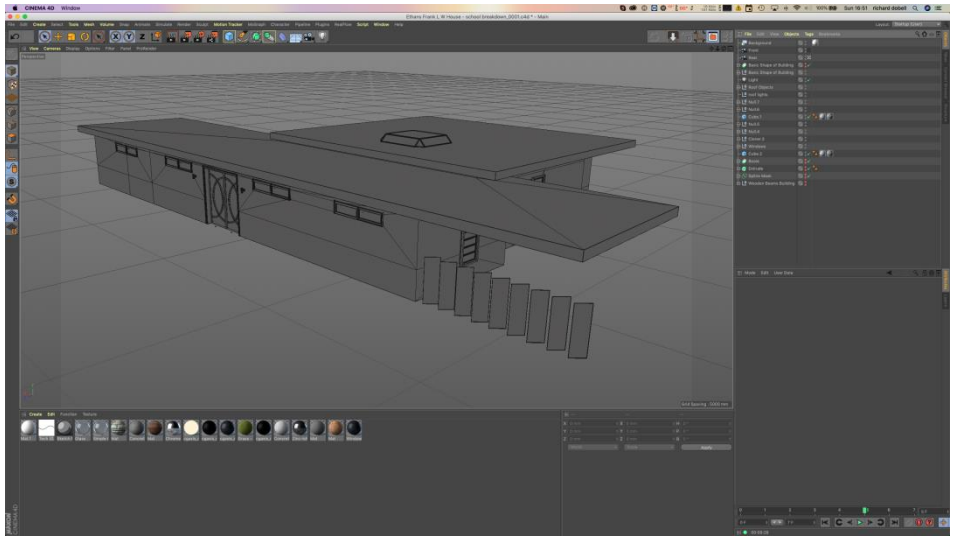
Frank Lloyd Wright – Cinema 4D

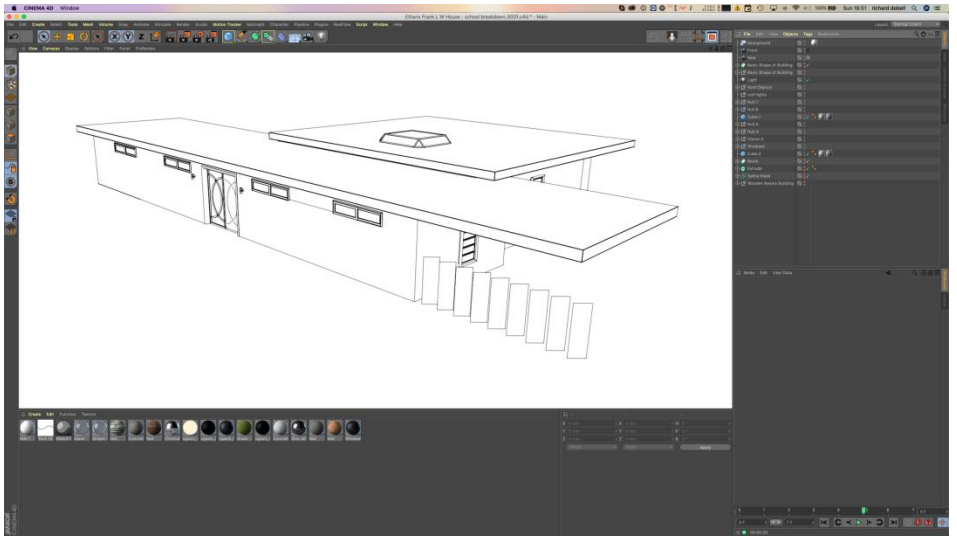




Here, the roof has been added to the model, as well as the windows and doors. The majority of the windows were kept the same, except from a few that were altered because it looked better.

For example, the front door is now a set of double doors with the loops overlapping three times instead of twice. The skylight has been scaled down and added to the raised section of roof.





Here is the final render. Using Cinema 4D I have produced ultra detailed renders that really accentuate the model and shows off all of its features. Here you can see the house's front, completed with driveway, trees and a Dacia Duster to show its scale and sizing.

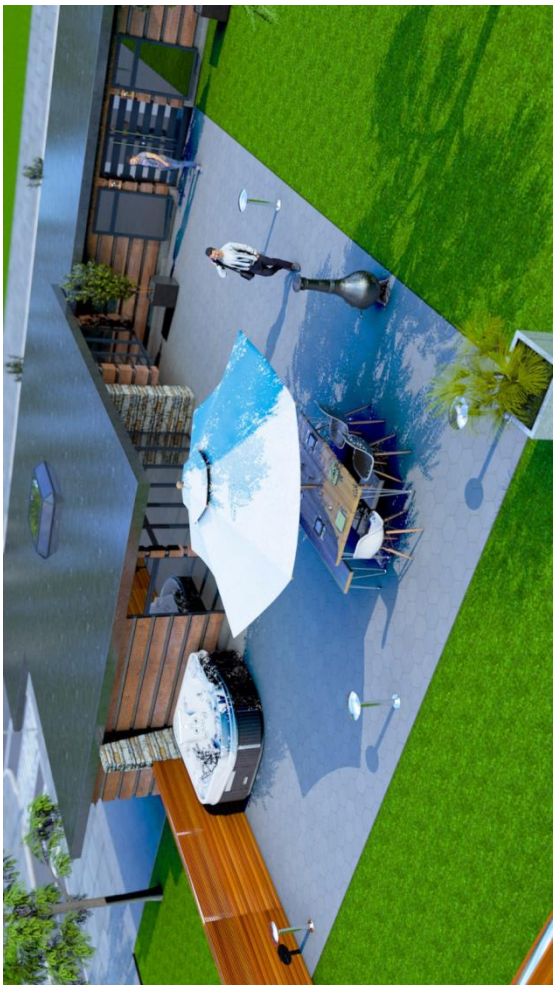
This is probably my favourite render of the building as I love the design of the door, mixed with the look of the wooden cladding and how real it looks overall. The depth of field and lens flare also adds a realistic feel as it makes it look like a photograph taken by a camera.

Frank Lloyd Wright – Cinema 4D renders

This is the rear view of my Frank Lloyd Wright style building. It shows the back garden dining area, stylish circular window at the front and has a few people to show the scale of the model. My favourite aspect of this shot is capturing of the model's depth. It really defines the wooden cladding.

Frank Lloyd Wright – Cinema 4D Renders

Frank Lloyd Wright – Cinema 4D Renders

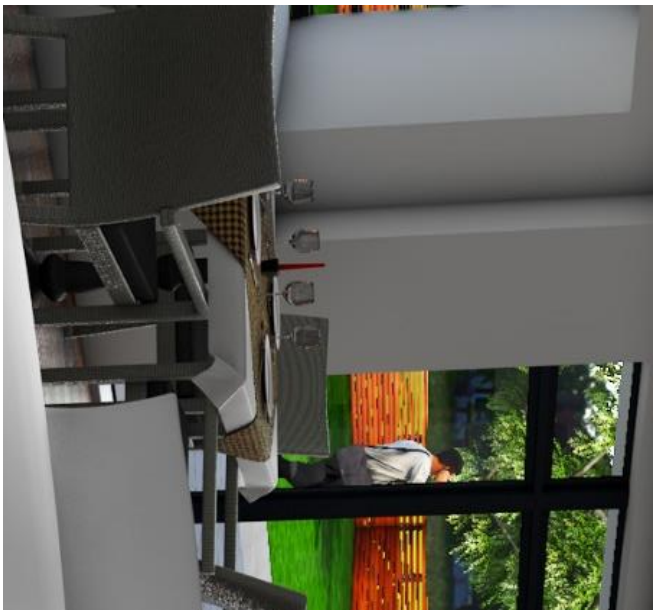


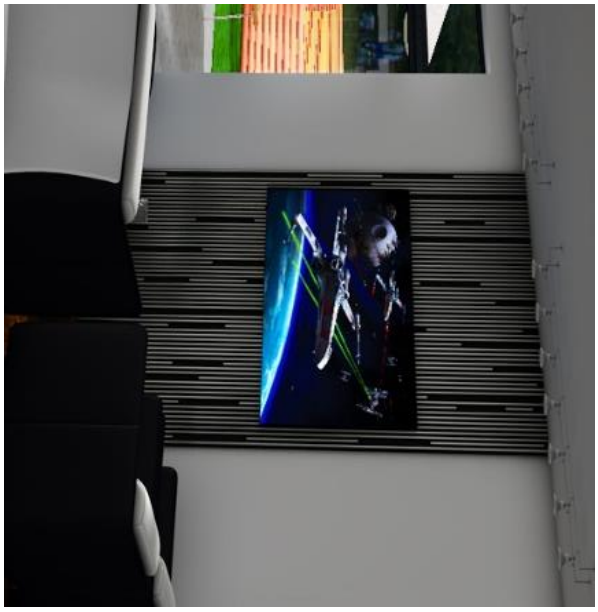
INTERIOR RENDER NEEDED

These are the renders of my building's interior. It follows a primarily white colour scheme which perfectly contrasts the floor and kitchen area. The main living area is consistently open plan allowing for a more social lifestyle. As Frank Lloyd Wright was a 1920s architect, I have made the interior more modern. There is a 65" television playing Star Wars – which would not have been around in 1920. To make this model more of my own, I have added a musical sculpture onto the bookshelf as well as a Chicago lamp in the far corner.

Cinema 4D - Interior Renders

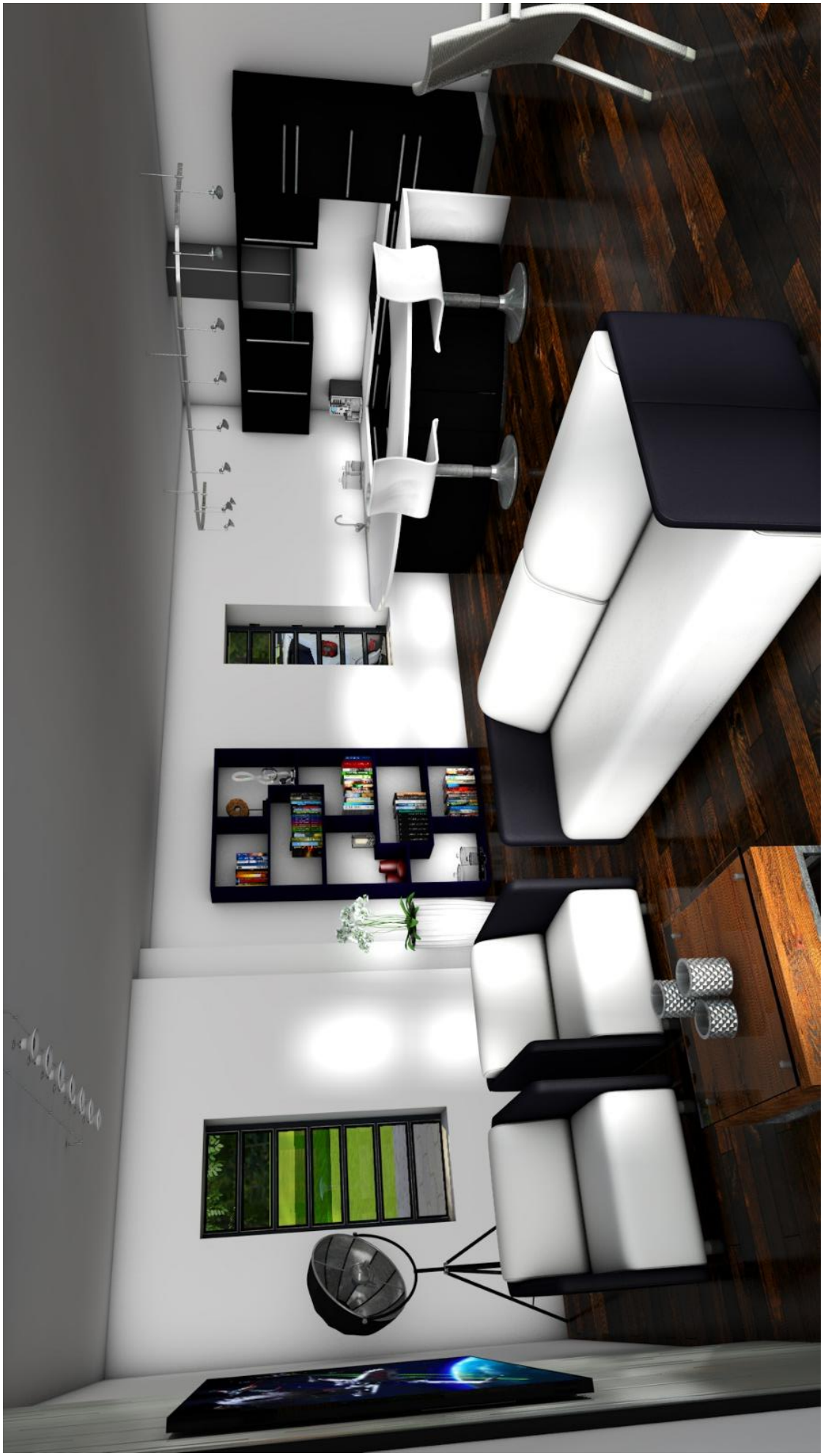
Cinema 4D - Interior Renders





This is the view over the kitchen counter. You can see into the garden and this view adds some more perspective to the model. There is a lounge area with sofas, coffee table and TV as well as a dining area for family meals. With this render, I was trying to show what the house would look like inhabited. The addition of an interior also adds some more homeliness to the design, as well as giving it some character.

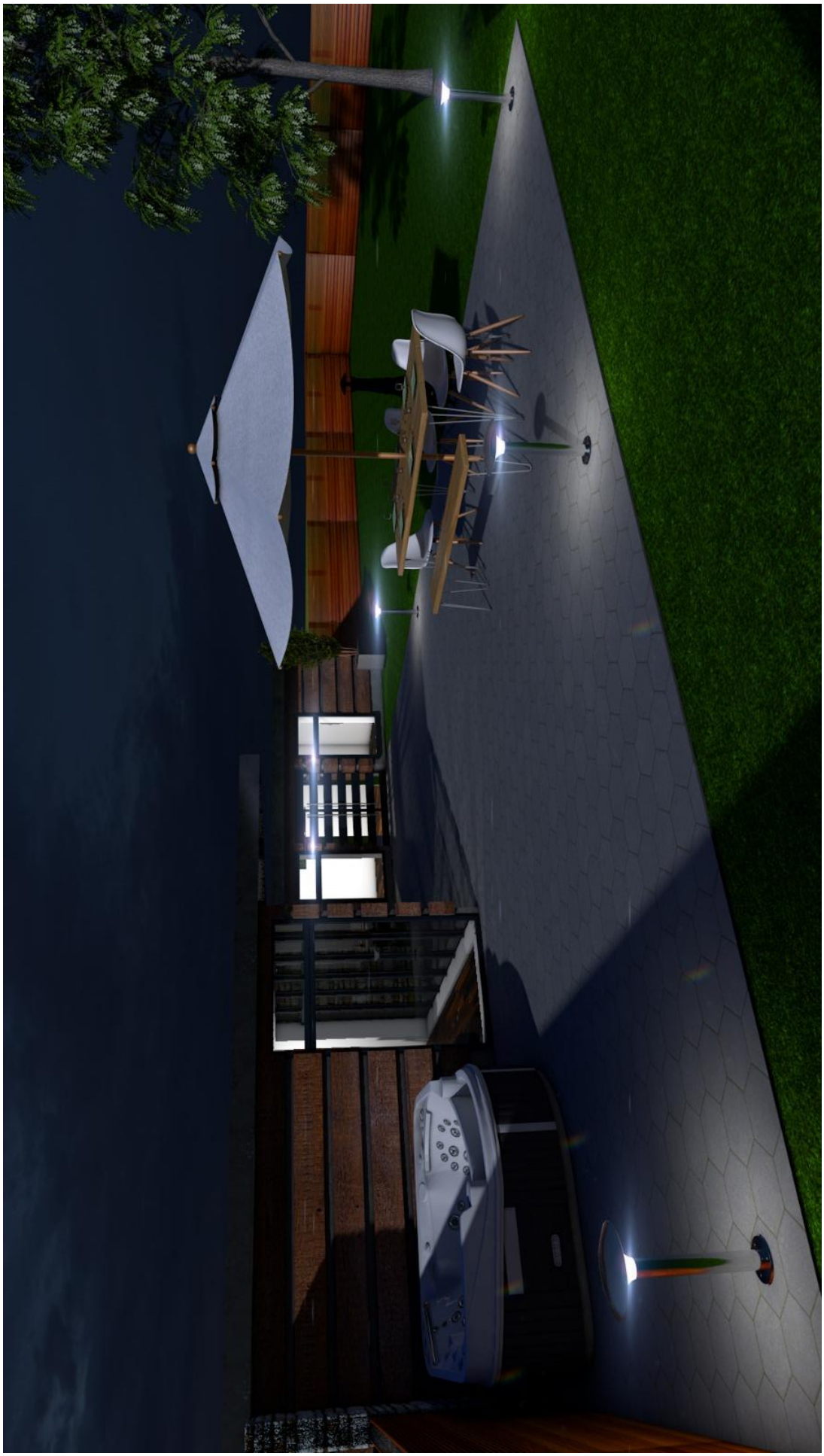
Cinema 4D - Interior Renders



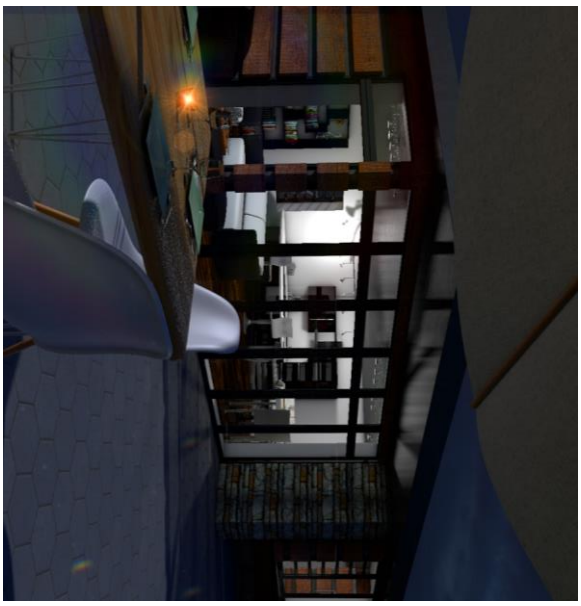
Frank Lloyd Wright – Night time Cinema4D render

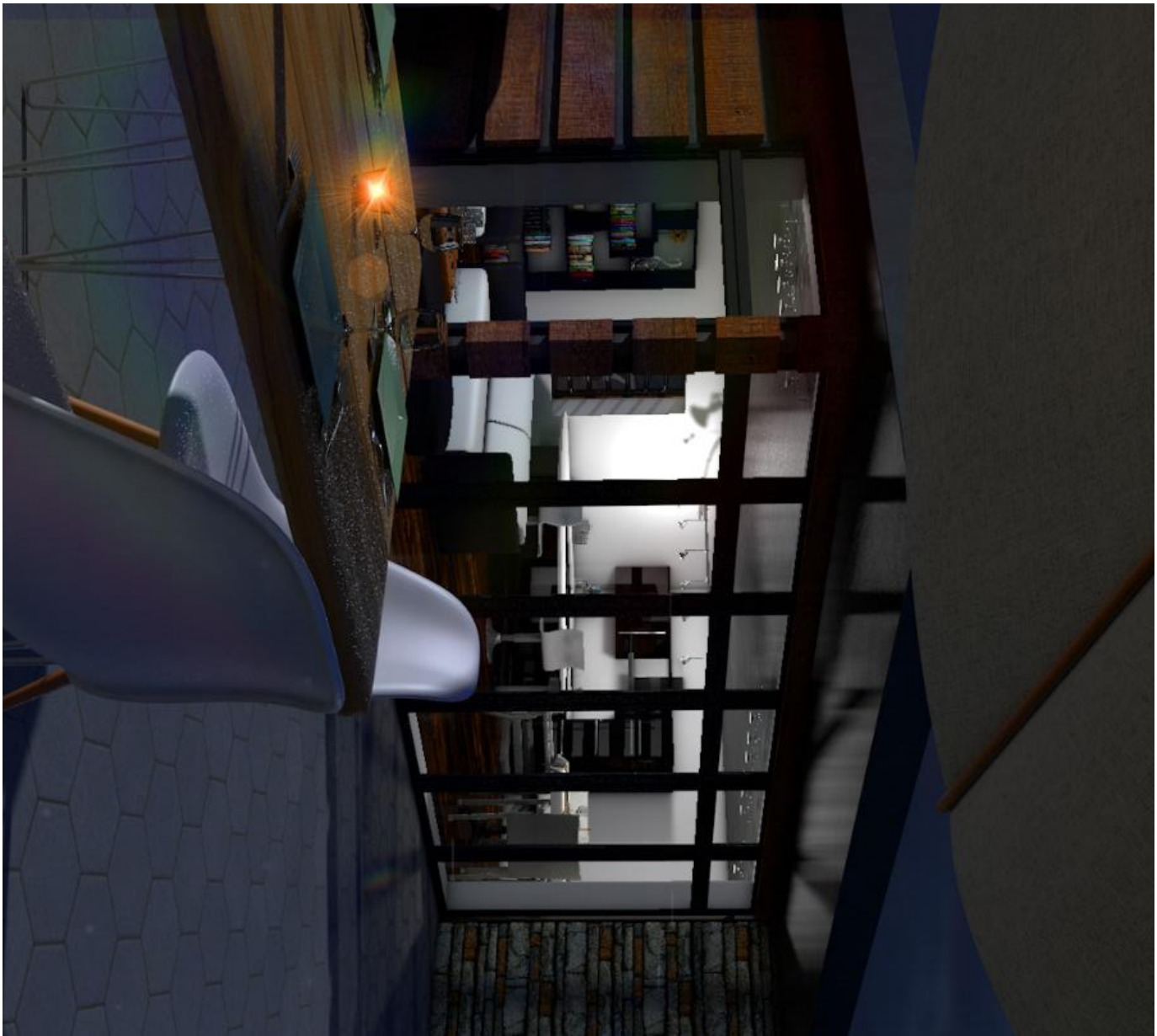
This is another example of model – but at night. These renders show up the lights both inside and out of the house. I wanted to produce a render during the night as it allowed me to visualise what it would look like at any time.

Frank Lloyd Wright – Night time Cinema4D render



Frank Lloyd Wright – Night time Cinema4D render

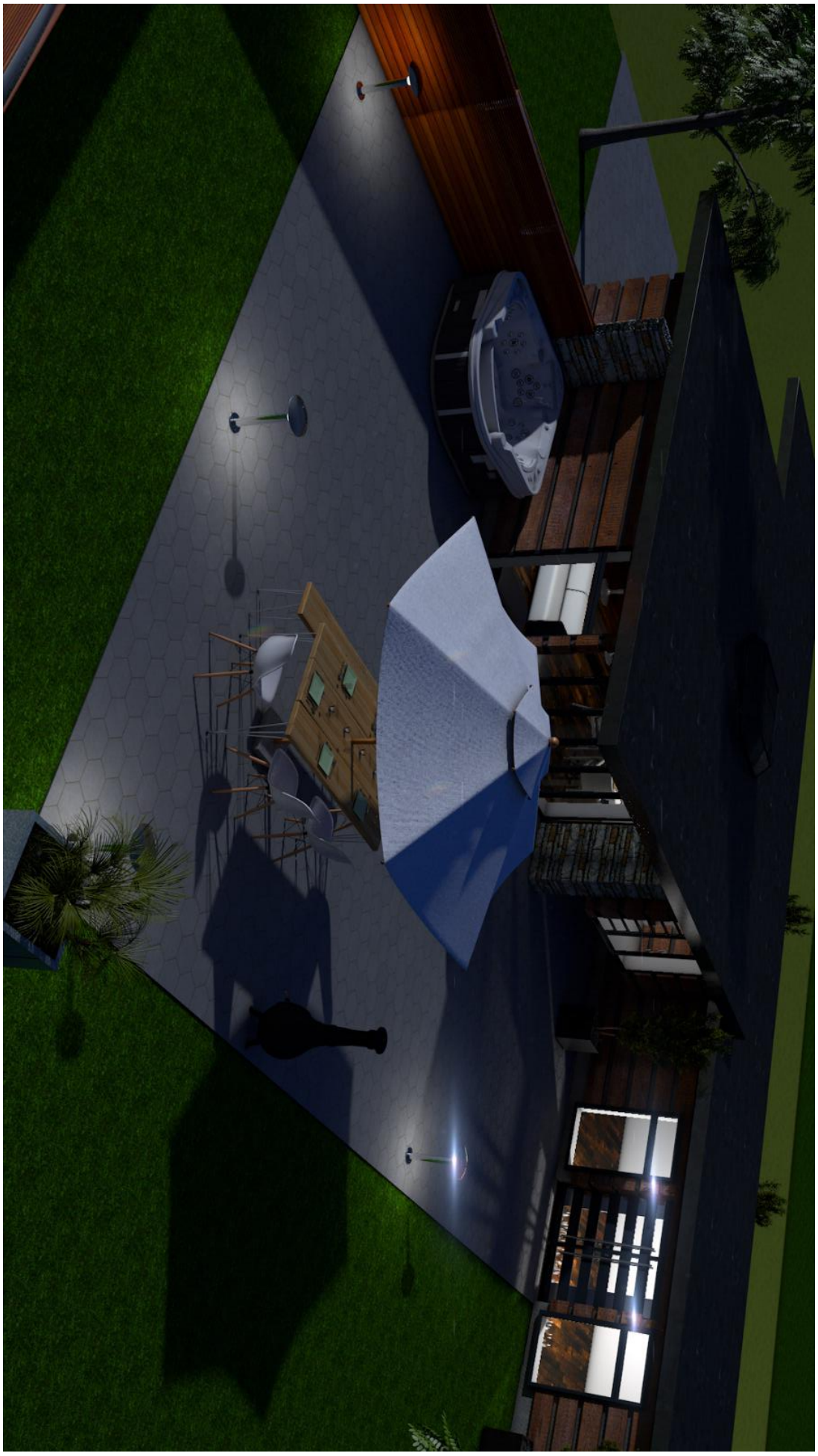




This is the view of my Frank Lloyd Wright style building at night. This is more of a first person shot as it is almost like you are sat at the garden dining set. You can see the patio lights shining onto the patio as well as the inside lights shining out of the windows. Having this render set at night really accentuates the artificial shadows casted by the models lighting. Having a render set at night gives the client a greater idea as to what their building will look like.

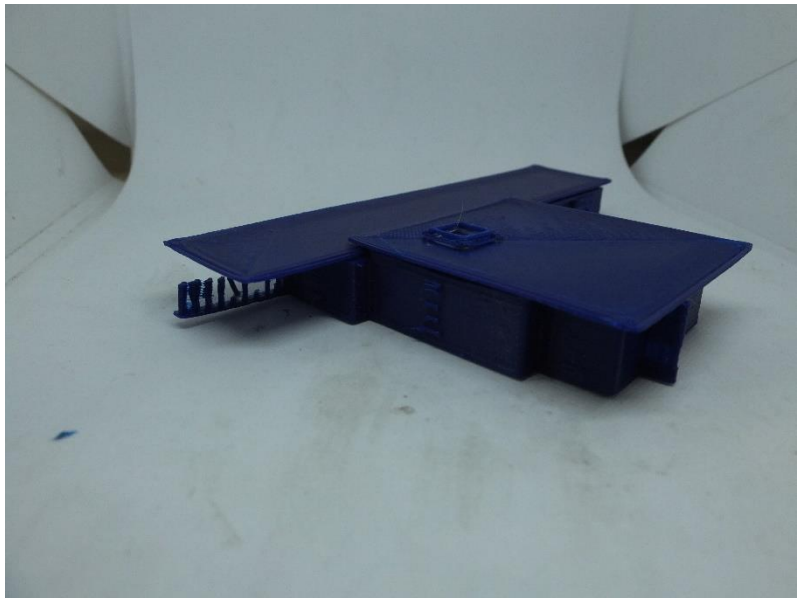
Frank Lloyd Wright – Night time Cinema4D render

Frank Lloyd Wright – Night time Cinema4D render



Frank Lloyd Wright – Night time Cinema4D render

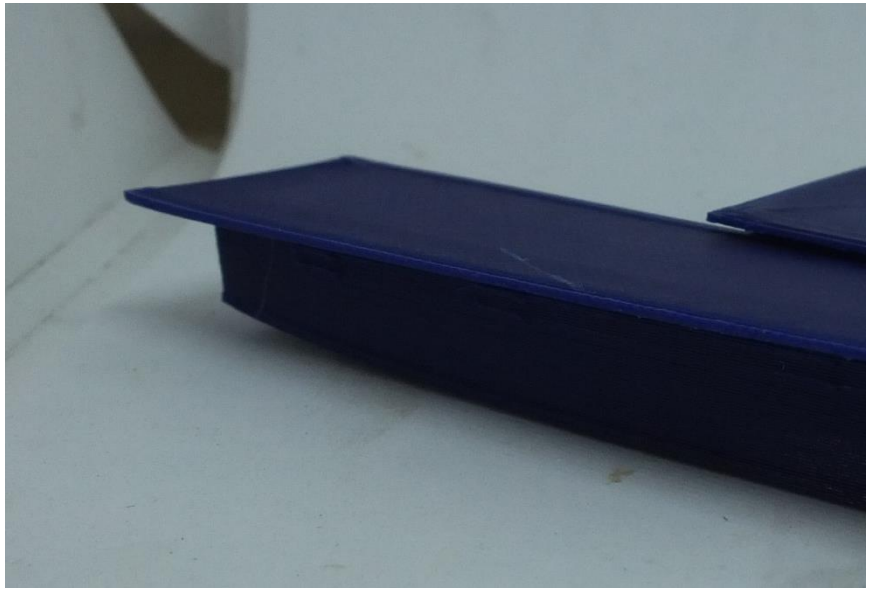
Frank Lloyd Wright – 3D print



Here is a 3D printed version of my previous Sketchup Model. A 3D printer allows me to make a PLA model that still retains detail. This model provides a physical version of the model in more detail than if done by hand.

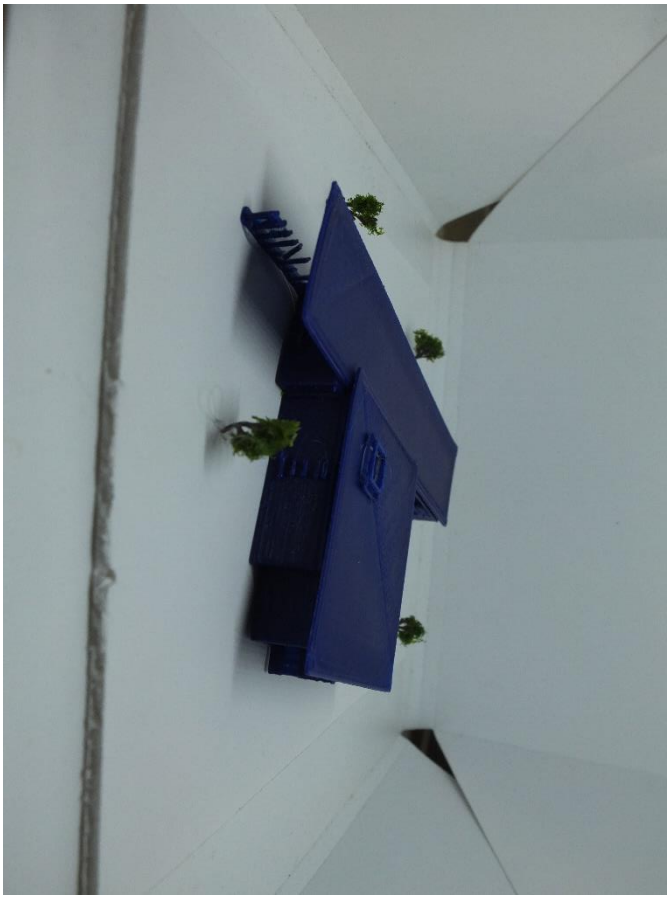
I did encounter a few problems with the 3D print. Certain parts of it came out looking a little scruffy and bits of filament were a little bit loose but overall it came out looking like an accurate representation of my model. Another problem I discovered was that the filament at the end of the model decided to raise itself upwards and form a bow. This means that the model does not sit completely flat but it does not completely ruin the model's appearance.

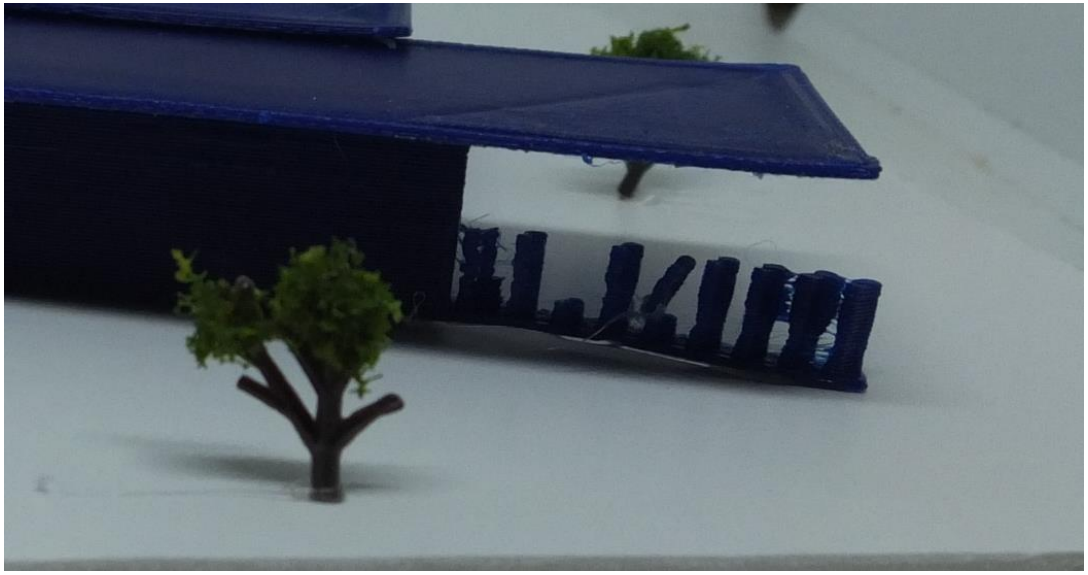
Some parts of the model were also flimsy. The small angled rectangles under the long roof were weak in structure and some broke off. I managed to hot glue them back on but parts need to be secured down properly.

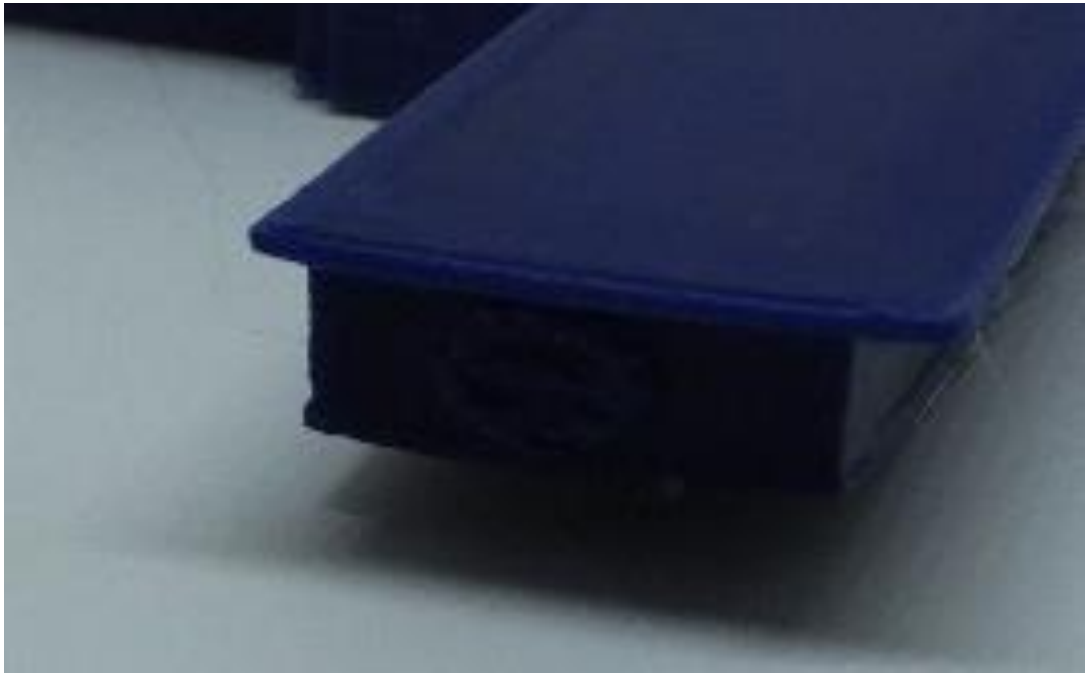


Frank Lloyd Wright – 3D print

Frank Lloyd Wright – 3D print





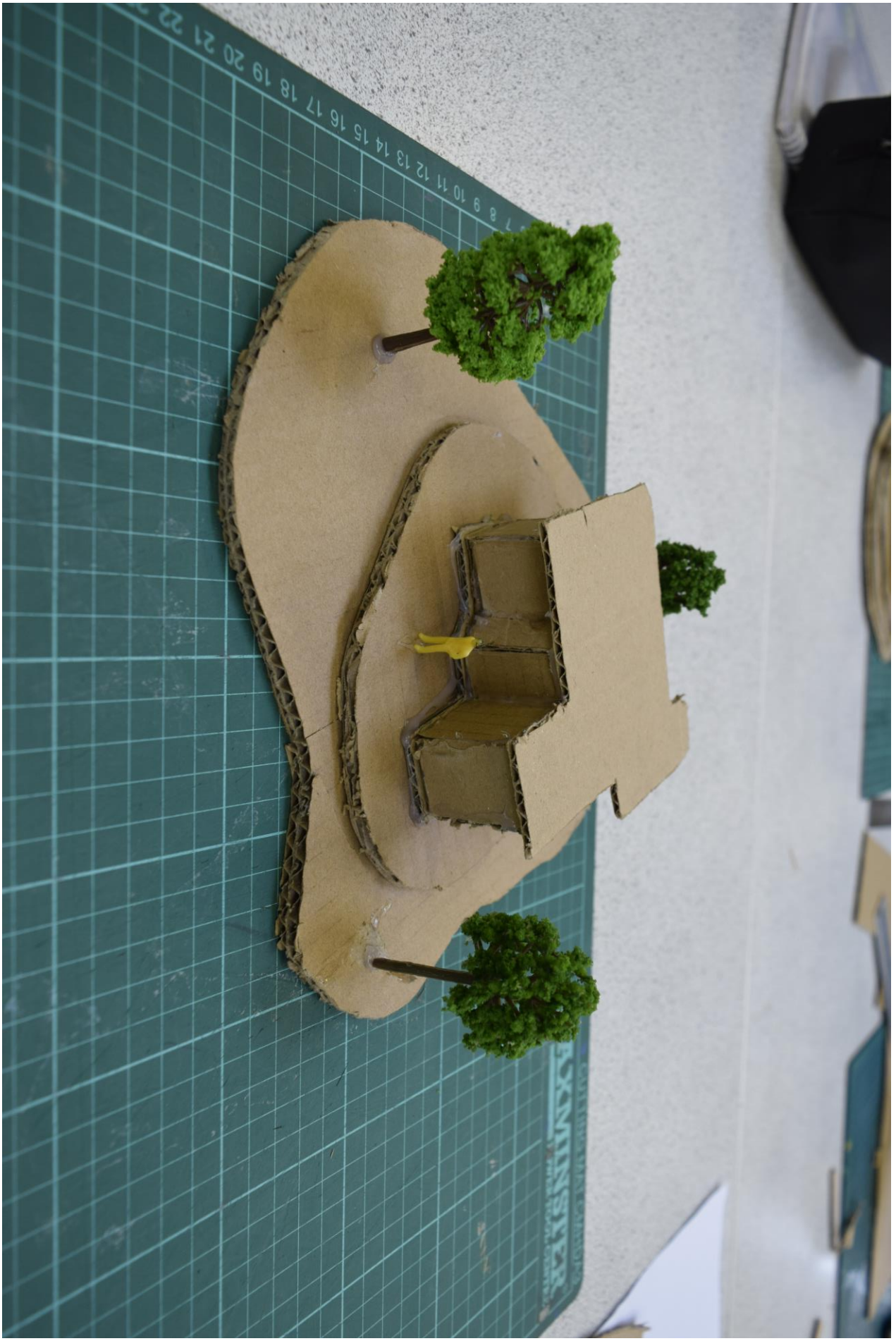


I then put this model on a base of foam board to allow me to add some greenery to the outside. I was rather reserved with the trees I added but my main goal was to show a bit of scale within the model.

A base allows me to secure the parts that arch up (as shown left) and makes the model safer overall. It doesn't fix the problem at the front of the model however, but this isn't too much of a problem.

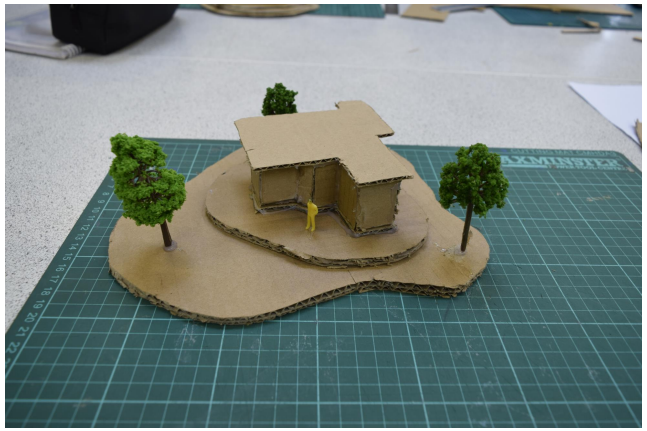
Here is an example of where the printing went a bit wrong. The front arched up and it extruded a line through the middle of the circle. This isn't a major problem but it still harms the model's exterior.

Frank Lloyd Wright – 3D test piece



Now I will start to produce a 3D model of my Sketchup work out of cardboard. For this I will be using a sharp stanley knife, metal ruler, cutting mat, pencil and of course cardboard.

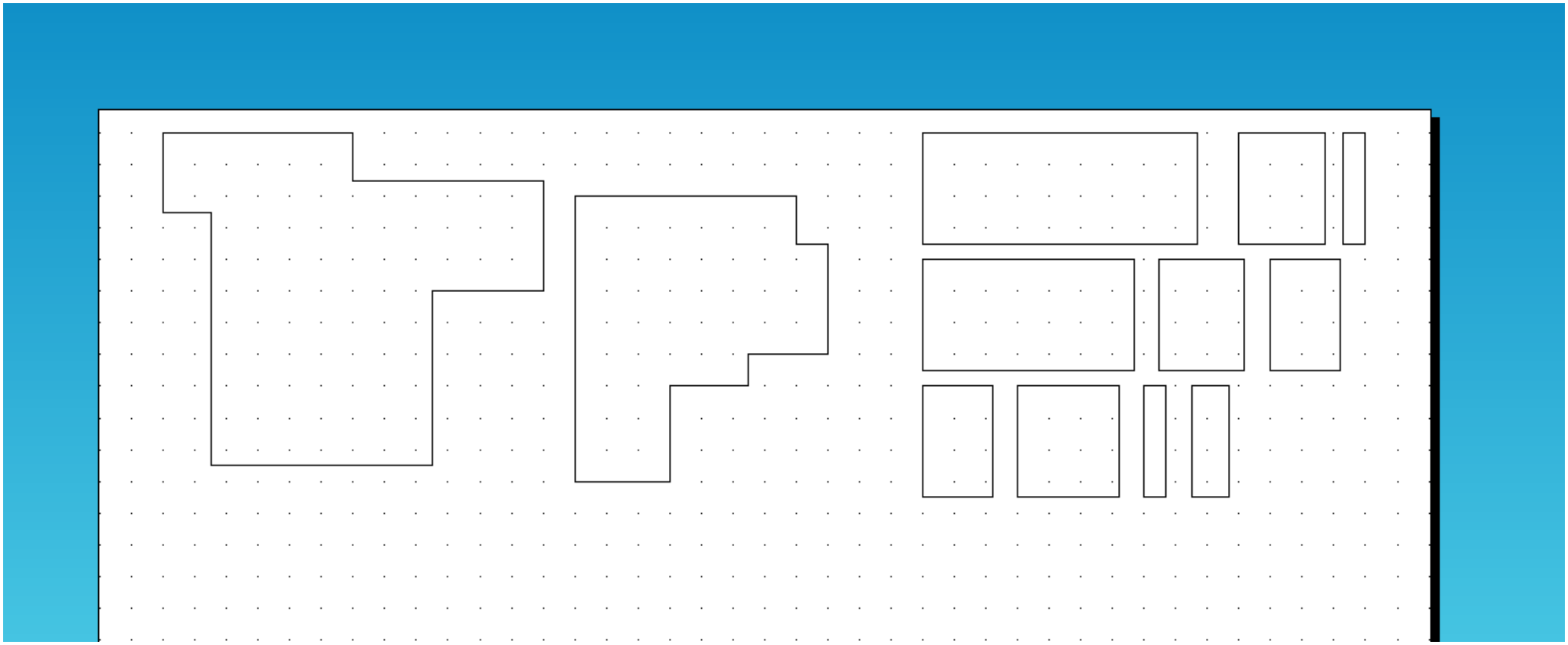
Frank Lloyd Wright – 3D test piece



This is my first attempt at modelling my work from Sketchup In a tangible form. For this I used cardboard as it is easy to cut and easily shapeable. The edges of this model are quite rough and the terraforming isn’t the best it could've been. These are both things which will need to be corrected in my foamboard model.

The size of this model is good - but it could be bigger. There is also a lot of glue exposed around the edges where I joined all of the walls togther. I will make sure to be more conservative on the glue side for my foam board model.

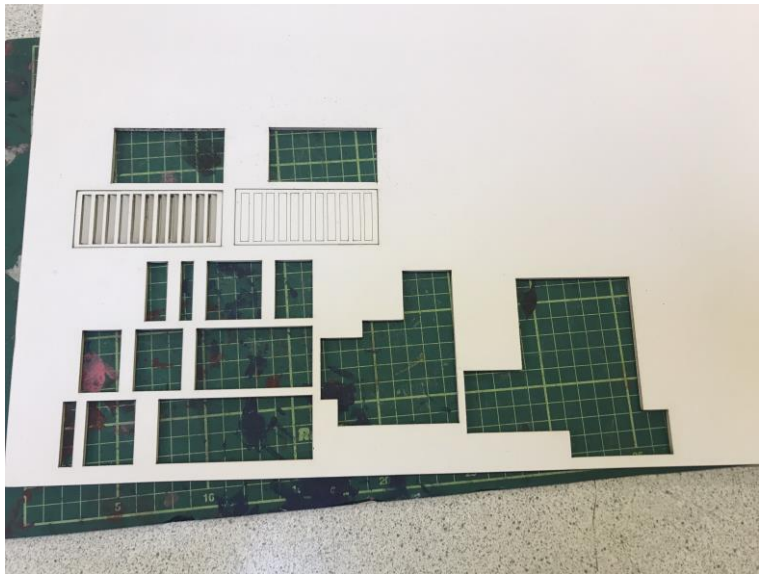
Frank Lloyd Wright – 3D test piece

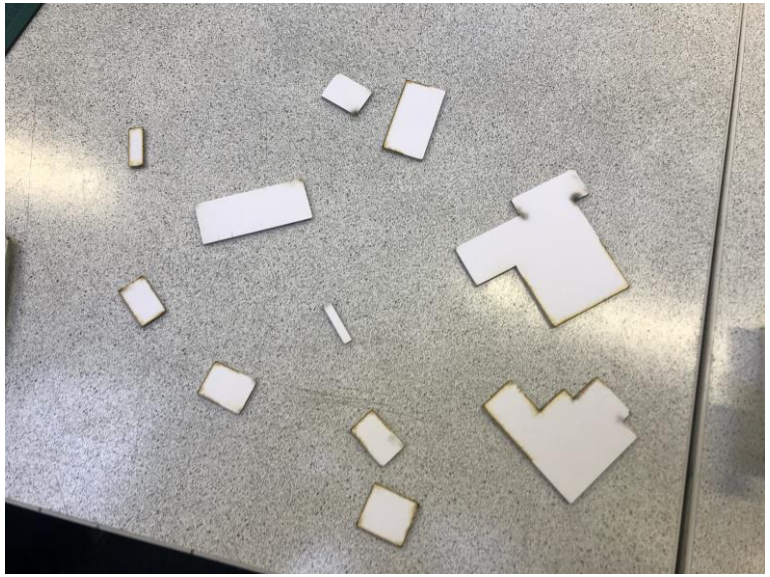


Frank Lloyd Wright – 3D test piece

To make my foamboard model, I used a piece of software called Techsoft 2D Design. It allows you to map out a series of vectors which can laser cut using a laser cutter. This then enables you to cut the foamboard with supreme accuracy.

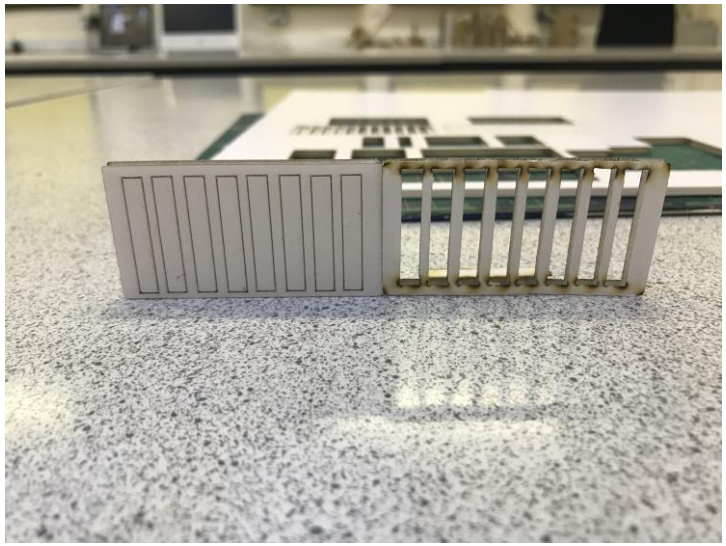
Frank Lloyd Wright – 3D test piece





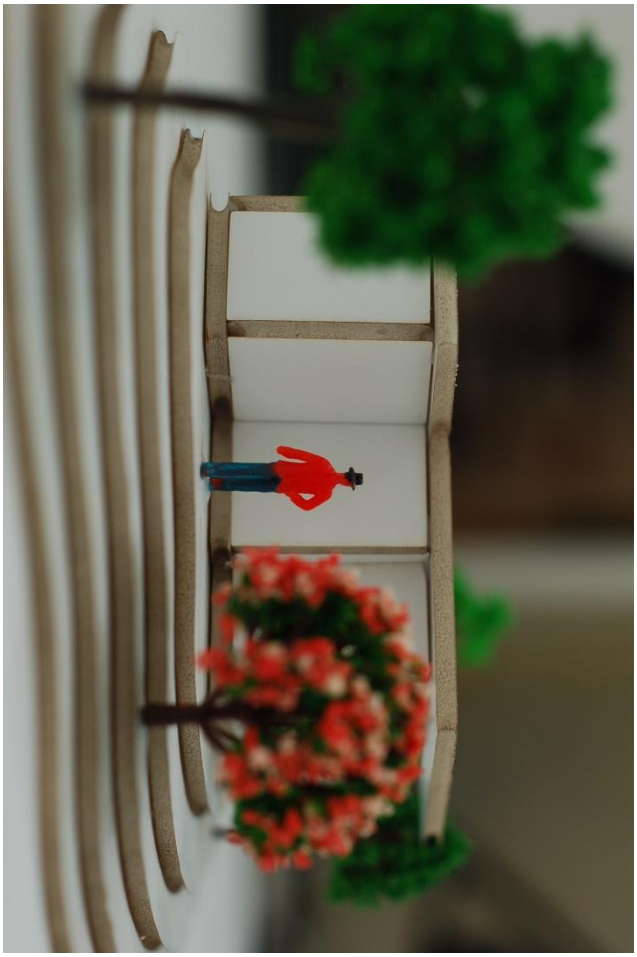
I lasercut all of the parts I need, removing 3mm from each measuremeant which allowed for more accuracy when construting. Although lasercutting left burn marks on one side, the other was completely clean. A laser cut model will appear much neater than one cut by hand, improving this models quality.

Frank Lloyd Wright – 3D test piece



With a laser cutter, you can etch into materials meaning it doesn't cut the full way through. I tried using this to differentiate the windows. I also tried cutting the windows out full but that meant the top and bottom of the wall was structurally weak as the laser went through the same point twice. Finally, I decided to use the etched walls as it looked cleaner and more professional.

Frank Lloyd Wright – 3D test piece

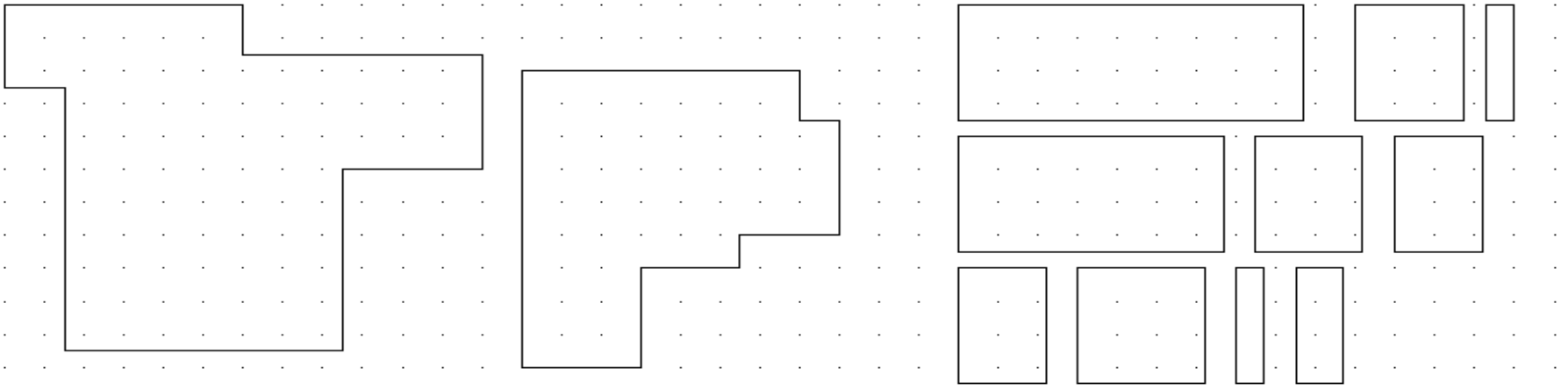


This is my final foamboard model. It is in the same scale as my cardboard model but is 100 times neater, thanks to the use of the lasercutter. Foam board is used as the main material as it is strong, but also looks makes the final product look like an actual, clinical architectural model.

I added small people and trees to show the scale of the model in relation to a person. The model is also set into contoured landscaping which gives it more depth and compliments the model's 3D nature. There are also windows etched onto the sides of the walls which adds a bit more realism and reflects the models glassy nature.

One problem with my model its size. I have effectively created a Frank Lloyd Wright beach hut. For my next project, I will be creating a mountboard model. This model will end up being at least 4 times bigger as what I have produced now is too small.

For this section, I intend to massively scale up the built model. Before hand, there was no real scale between the Sketchup and foamboard model. Therefore this time I do need to have a scale to work from. I want to add much more detail to this model, which will be easier with the its bigger size. To do this – I want to add the cladding on the sides, as well as the window details and front door.
The largest the lasercutter can fit is just around A2 in size, so that is my rough template for all parts. As you can see below, all of the parts of the previous model would fit onto a single sheet of A4. That will not be the case this time.
Overall, an increase in model size should allow me to have more detail, making for a much better piece all together.



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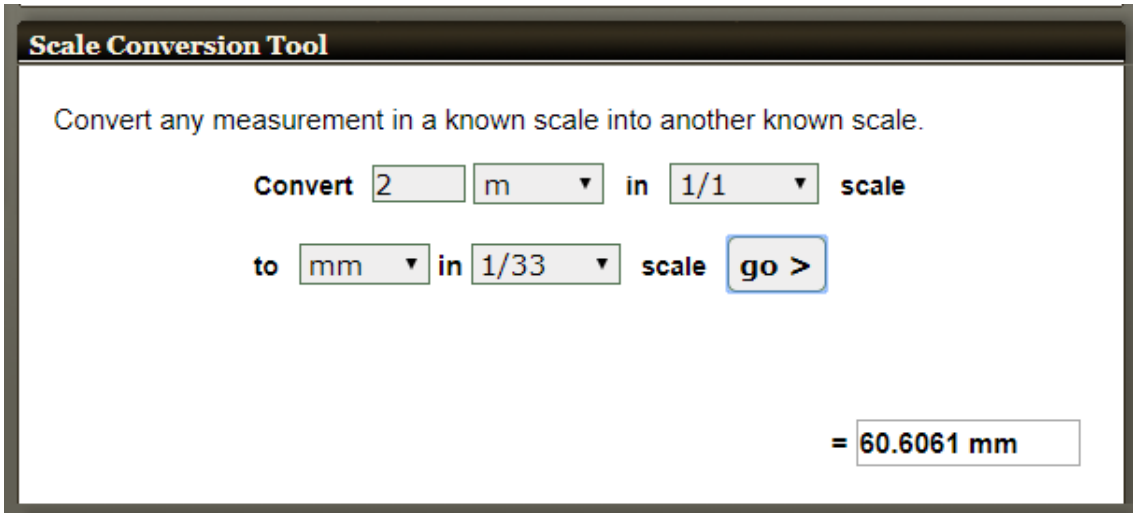
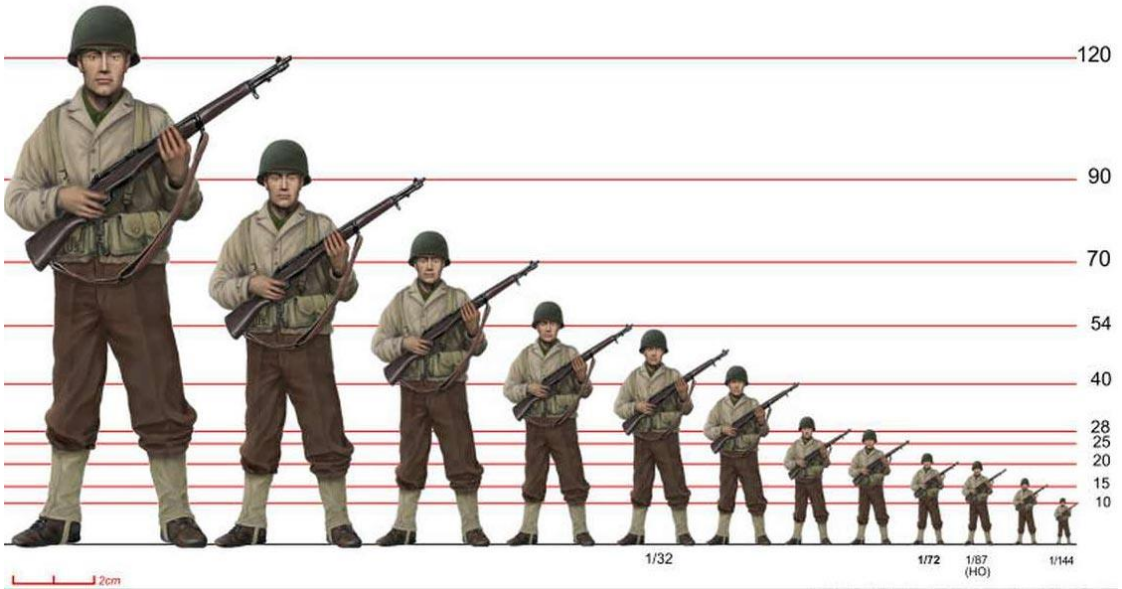


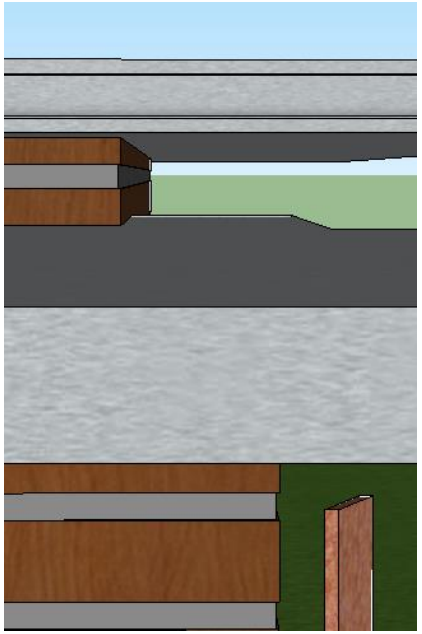


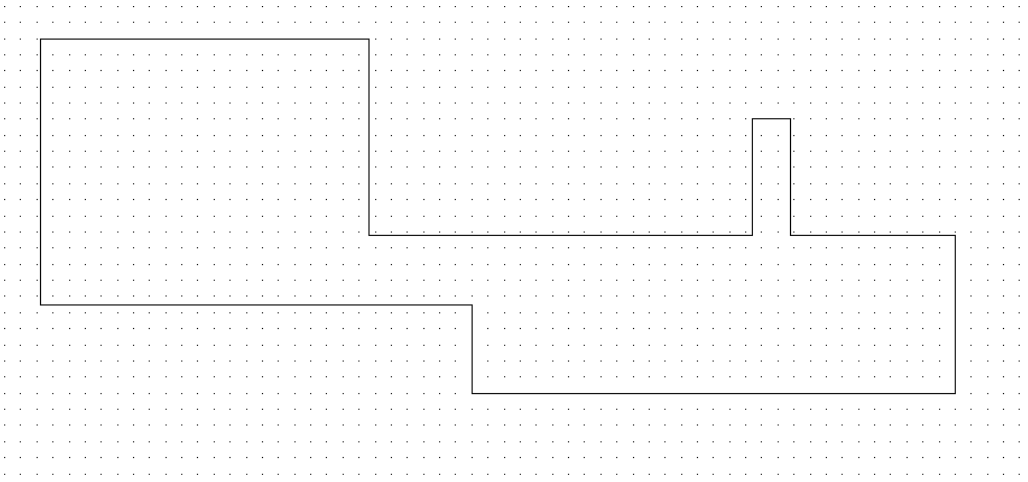
To calculate the scale I would be working from, I used an online scale calculator. By imputing the actual height of a wall (1:1 scale) and asking for a conversion to milimetres in 1:33 scale, I can then calculate the average wall height, which will be roughly 6cm – an appropriate size for the model. I can then use this scale for the rest of the model to give me an accurate size measurement each part.

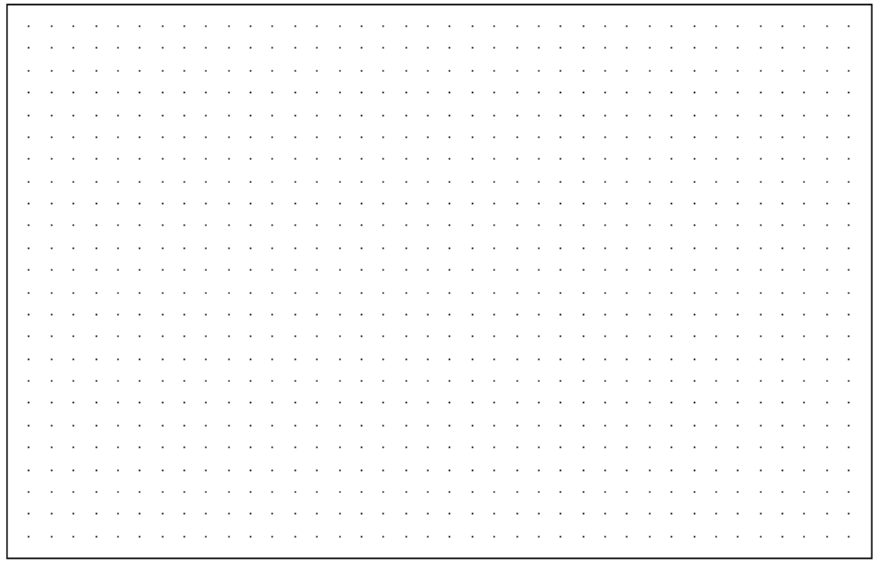
This much larger scale will mean that the model will become more like full scale architectural piece. You will be able to look at it from a distance and see all of the detail perfectly. Whereas with the foamboard model, there was very limited detail and you had to get very close to see any added detail.

This model will have large amount of detail because it is so much bigger. I hope to add the cladding and windows around the edge as well as the different level rooves.

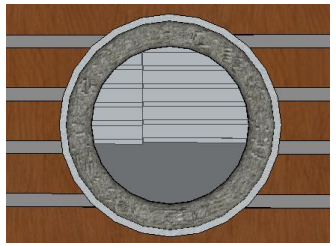
Now I have figured out all of my measurements, I need to input them into V2 Design. Firstly, I made the rooves as they are the largest part to the model. The model has two levels to it, a lower and higher section. The taller of the two parts is a simple rectangle measuring 39cm by 25cm. The lower part is slightly more complicated however. The driveway is a very long part of the model, so this needs to be accounted for. I made this model diagonal when cutting which then fit on the lasercutter platform. Having the rooves done gave me an estimated overall size for the model and allowed me to see if it was going to be too big. I have to rely on the lasercutter's accuracy when making this model as a lot of it was at a very small error margin. Eventually, I may double up the roof layers as in the model they are rather thick sheets of zinc. This would then better represent my model as it will then include my finer details such as roof thickness.

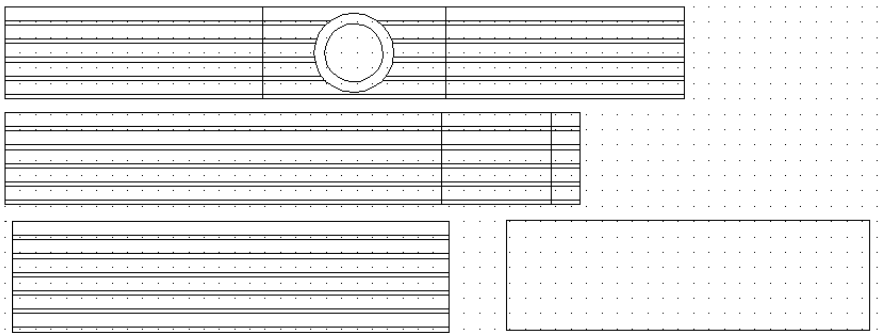


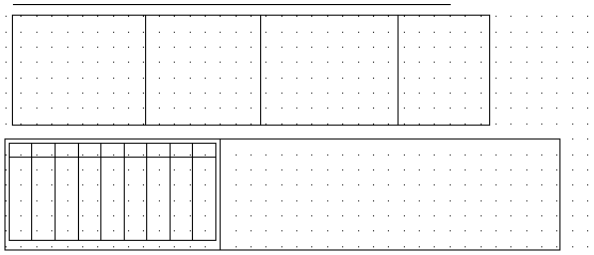




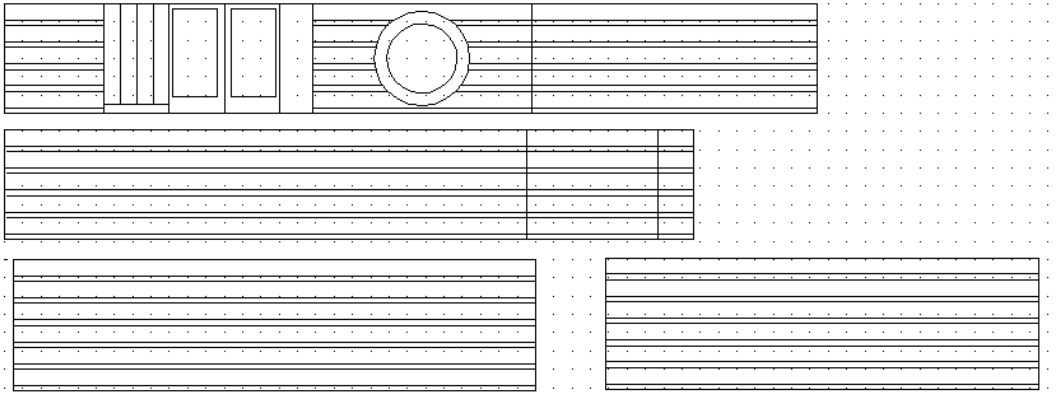
Now I have the rooves done, I need to work on the walls. Initially, I just created the basic outline for the walls and cut out the circular window at the front. This was a structurally accurate representation of the model, but it did not capture its key features. So I then added the cladding so that the model becomes more distinguishable.

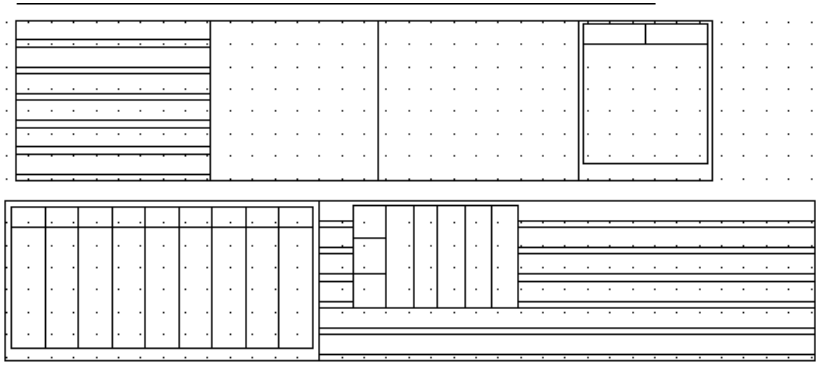






So I then decided to add all of the windows to the walls to give the building its main characteristics. The cladding and windows were etched on as this means it does not cut through completely and still leave the outline of the windows and cladding. This then gave the model more recognizable features as the key parts from the Sketchup model were also in the mountboard model.





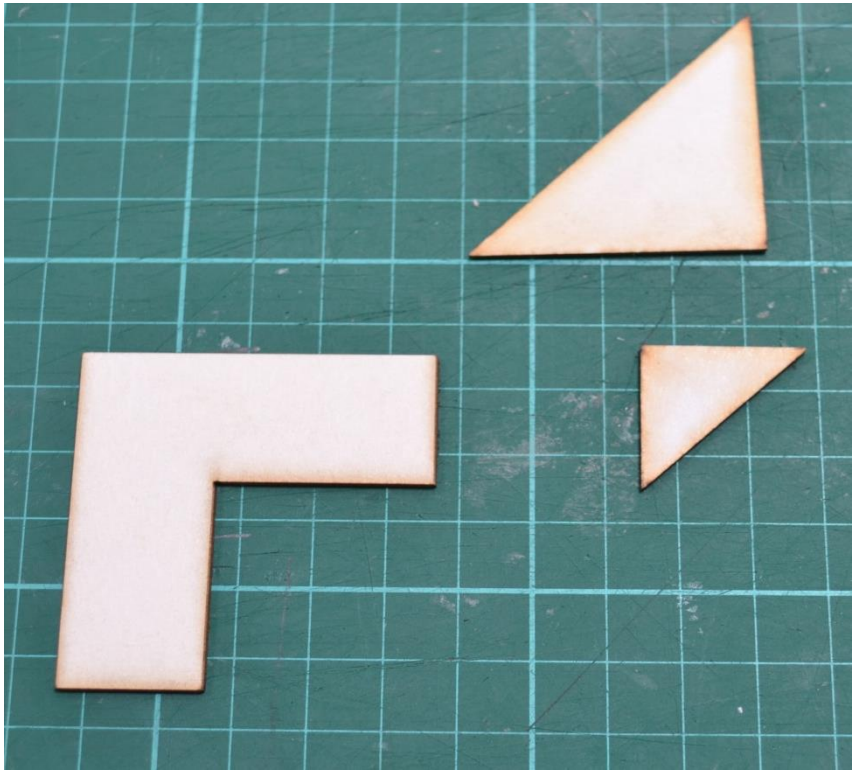
Frank Lloyd Wright – 3D test piece - walls

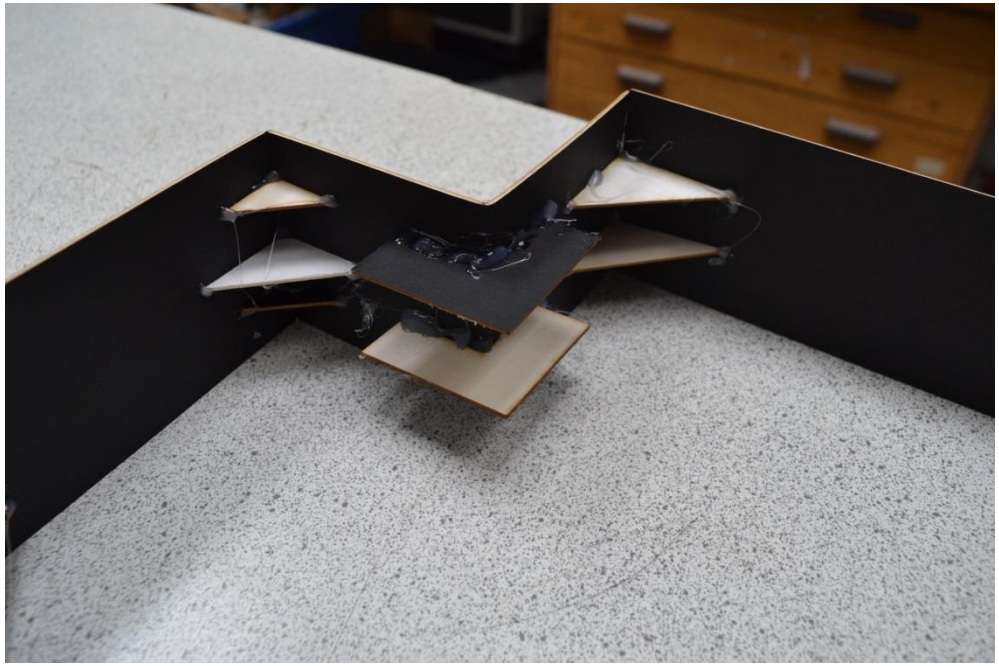
To secure each of the walls at a perfect 90 degree angle, I lasercut triangles and L-shaped pieces which kept everything in place.

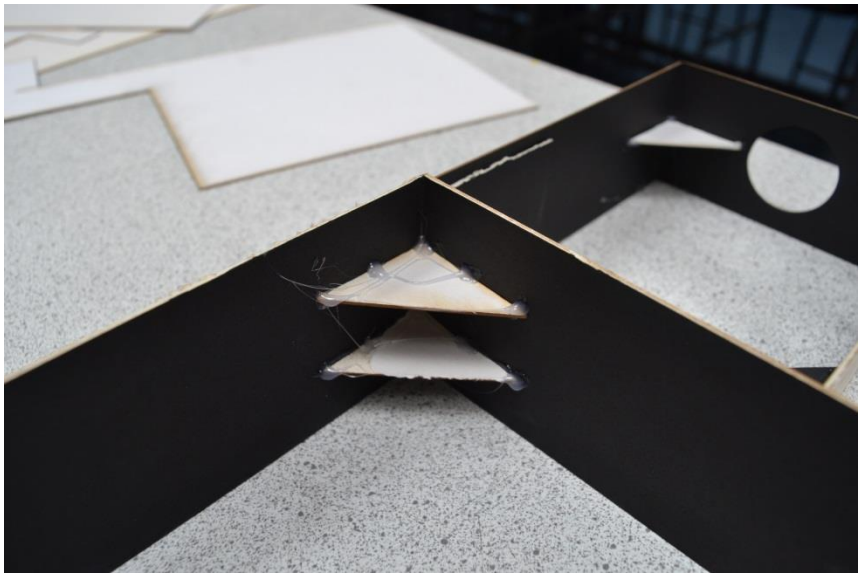
I used the large triangles for the main walls. This ensured that they were kept at a perfect right-angle and gave the model lots of structural integrity. The smaller triangles were used for tighter spaces that needed attaching together.

The large L-shaped pieces were used specifically for an inverted bend in the model. It kept the wall in shape and prevented it from being strained or broken.

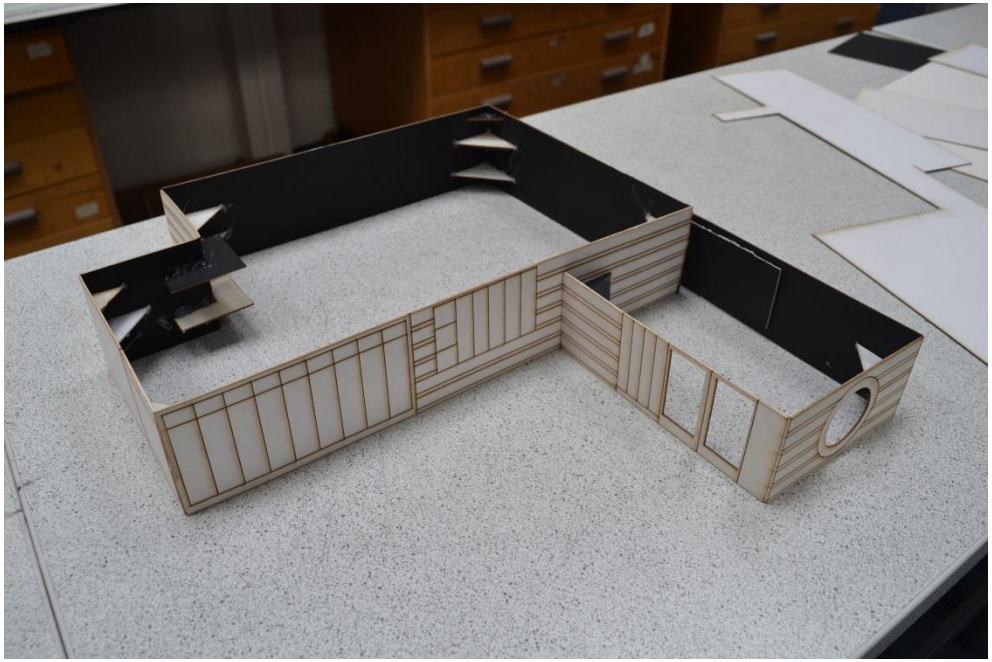
I used lots of glue (possibly too much) to keep everything together. However this should not be a problem as it will all be hidden inside by the roof. This means that this model is already a lot neater than my cardboard and foamboard model as it has no exposed glue.







Frank Lloyd Wright – 3D test piece - joins



Here is the main frame to my model. It consists of two main bodies that I attached to each other separately. I built the body first as it meant that it could then adjust the size of the rooves if it turned out that they needed to smaller or larger.

This model turned out to be more difficult than I imagined to construct. Between lessons, the mountboard bowed due to it being warm and the moisture within evaporating. This meant that the joins were not as neat as I hoped, but I found ways to over come this. (using a friend to hold it straight as I glued it) Where I had made long chains of walls to prevent excess joins, the edges had become much weaker as they were being bent both ways. This did cause a break and needed to be recut and moved a lot less. It was also difficult to get perfect right angles when attaching the walls together. I used a metal set square to align them which did work.

Where two long parts needed joining, I cut a long rectangle piece of mountboard and stuck it behind the wall to support it. All parts are hot glued together as this ensures there is a strong bond between the pieces. Where the front door was cut out, the top edge became much weaker as it was not thick enough to support itself.

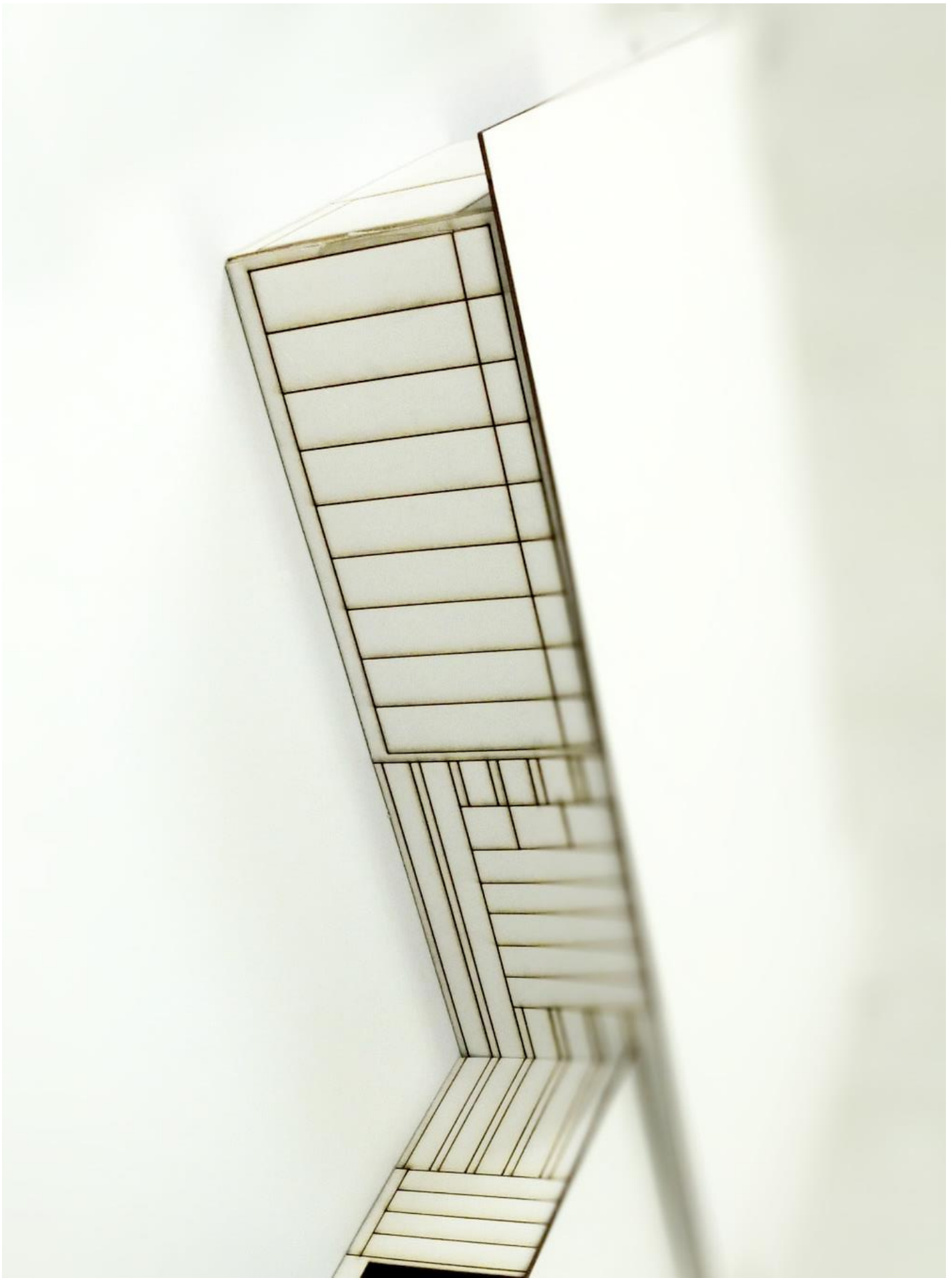
This model is already much better than the first two I made. It is larger, neater, more secure and overall a much better model.

Frank Lloyd Wright – 3D test piece

Here is a shot of the front facing windows. The way I achieved the outline for the cladding and windows was by using the laser cutter to etch them on. This is where the laser does not fully cut the material but just leaves a mark in it. This is useful for creating patterns without fully cutting through. I believe it is reasonably similar to the actual model I made on Sketchup. If I was to do this model again, I would make sure the cluster of windows to the right of this image were extruded outwards, like in the Sketchup piece.

Here is a shot of the model's front circular window. Instead of etching this window, I decided to cut it out completely – as I did with the doors to its left. This is because I intend to add some plastic behind the holes to act as windows. This will give it a bit of reflectance and enhance the realism of the model. Compared to the real model, there are only a few differences, one being the fact that the frame around the window Is flat on the model and arched in the Sketchup model.

Frank Lloyd Wright – 3D test piece



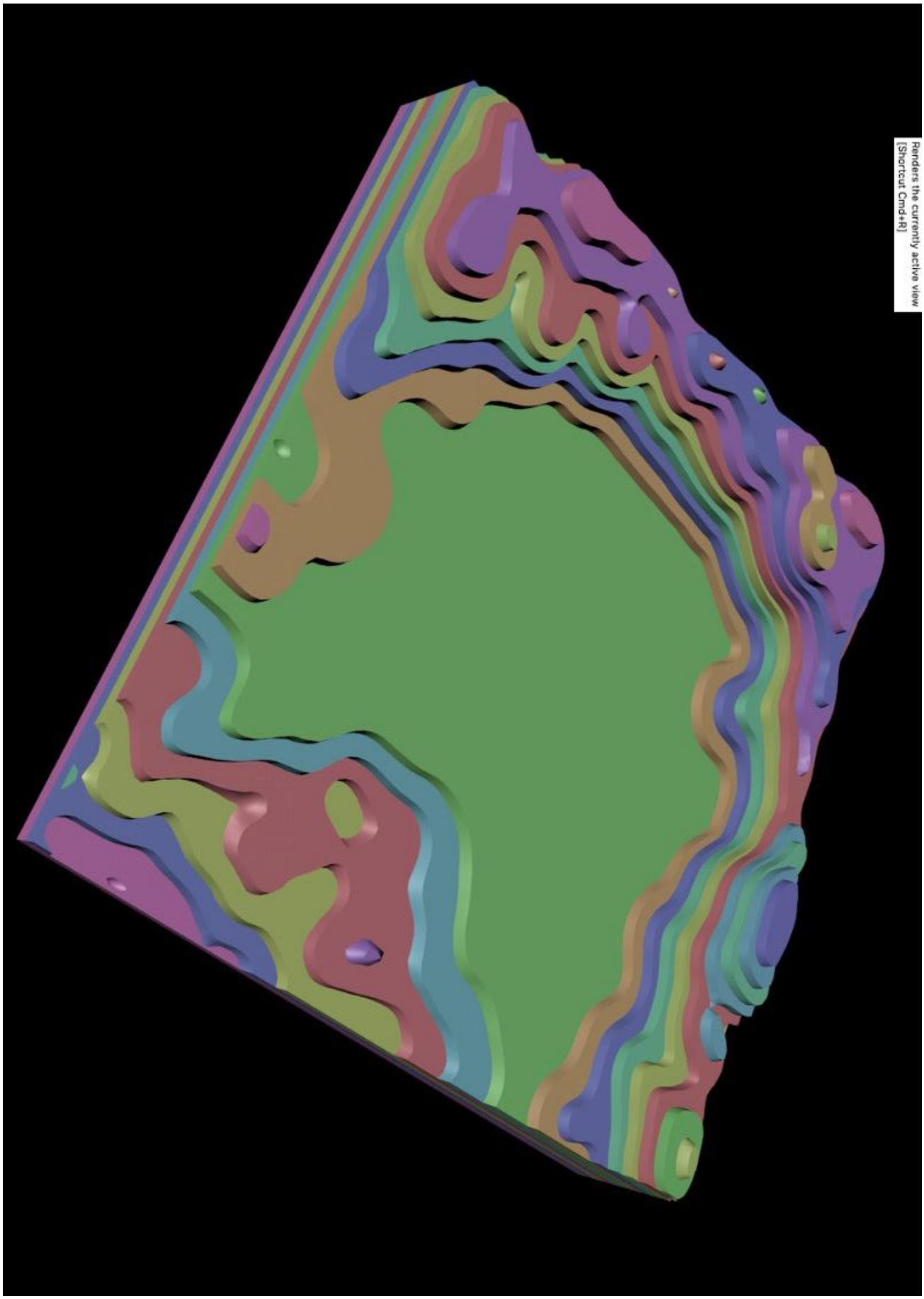
This is the completed version of the model, with etched walls and windows. A 30cm ruler is placed on top to show the rough scale of the model. Each wall has cladding etched onto it – except those that would have been a different texture. The windows were also etched on which gives immediately makes it identifiable if looking between this and my Sketchup model.

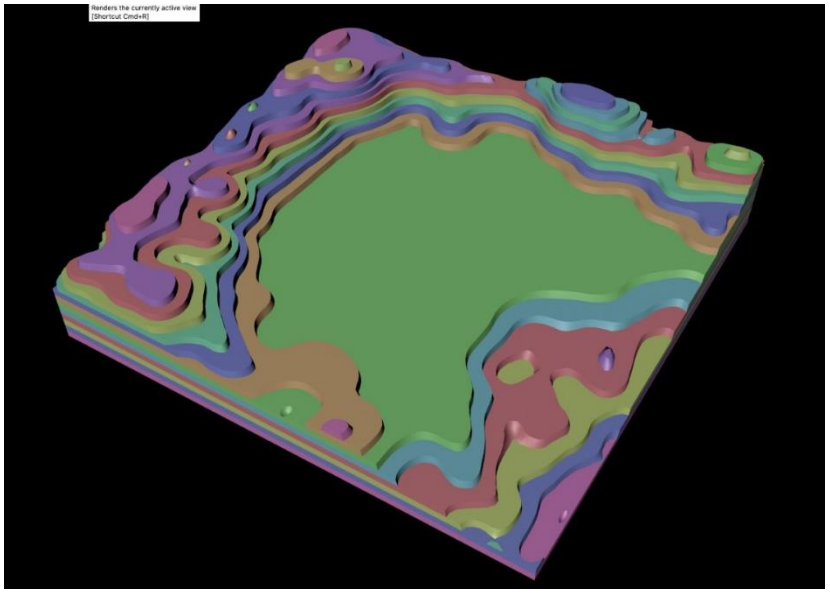
There are two parts that were fully cut out of this model which were the windows in the door and the circular window in the front. These will be filled with Perspex to simulate the model having glass windows. If all of the windows were cut it out would make the model too structurally unstable so only those few are actually cut.

All of the parts are held together with small right angle triangles and hot glue which makes the entire piece very stable. One part of long wall is held together by a long piece of mountboard which helps to keep it straight as well as secure it.

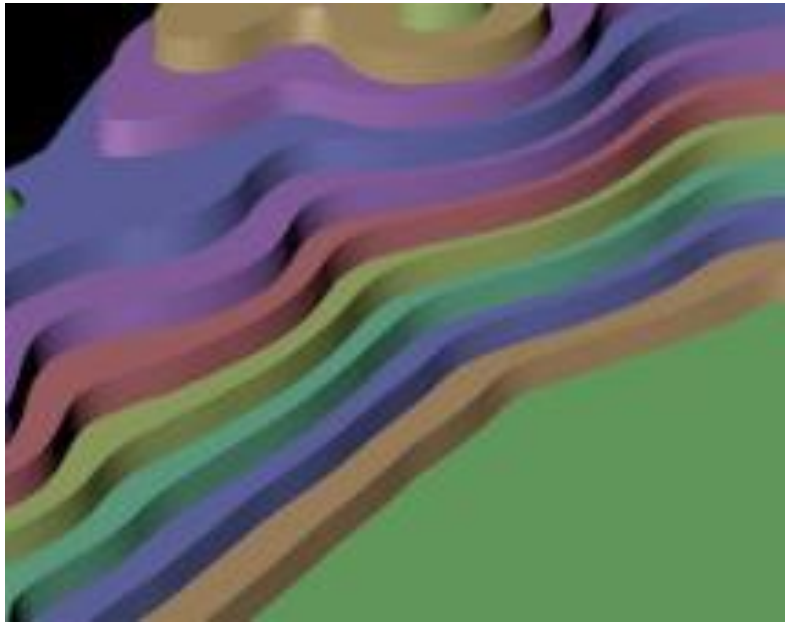
Overall, this model has come out looking rather good. Next up, I need to add the landscaping to the model. This will be made out of MDF and is going to have to be very big. I intend to use a CNC machine to cut the sheets as this means that the landscape can be contoured and very accurate.

Frank Lloyd Wright – 3D test piece





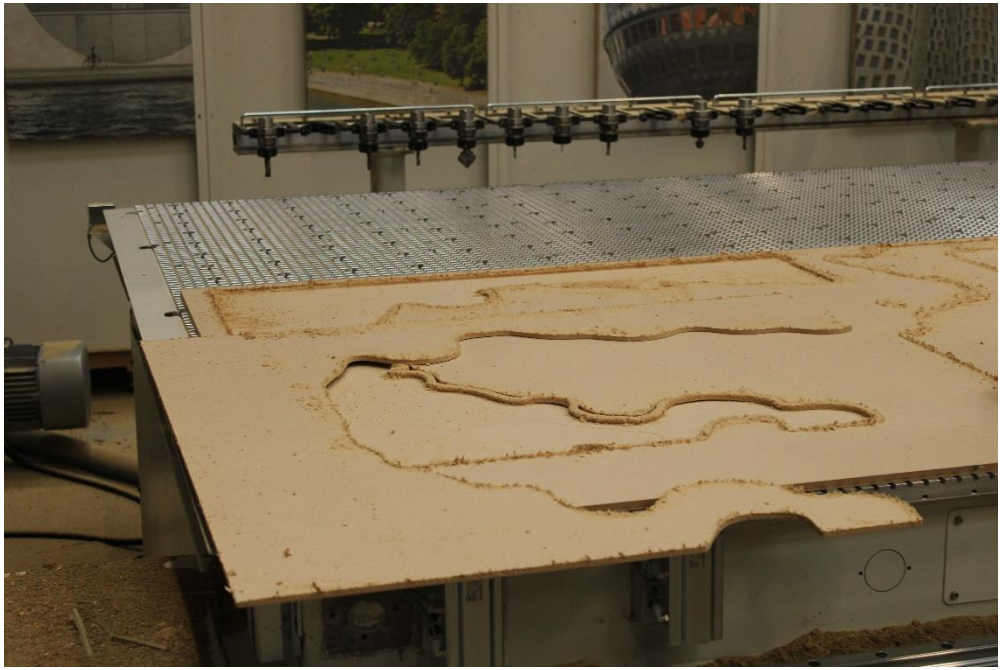
To create the landscape for my large model, I'd need a profile. Here is a coloured lansdscape diagram which shows all of the different layers of the MDF terrain. The size of this build is 1 metre by 1 metre meaning it is very large, but also fits the size of the model it is going to be housing. The smooth terrain was then cut into 15 equal pieces – 6mm thick each when cut.



A piece like this would need to be cut using a CNC machine as the lasercutter won't be able to penetrate through the 6mm MDF or facilitate the large size of the model.

I believe the landscape will complete this model and give it a clinical and clean architectural style – like the models professional architects create.

Frank Lloyd Wright – 3D test piece



For the landscape, I would need something large to accurately set the model into its landscape – just as Frank Lloyd Wright does. This would mean using an external mean of cutting the MDF. I sent the map contours to a company with an 8ft by 6ft CNC machine.

A CNC machine uses smooth drill heads which rotate at incredible speeds and can create soft and curved edges in materials. It can also be used to excavate into a material – rather than only being able to cut vertically or horizontally with a saw or blade.

This is were a CNC machine can exceed over a laser cutter. The CNC has the ability to drill into materials a certain distance, rather than cutting all the way through with no control over depth.

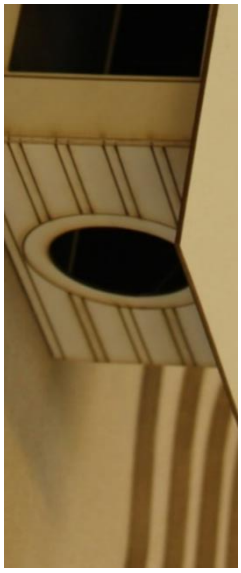
Frank Lloyd Wright – 3D test piece

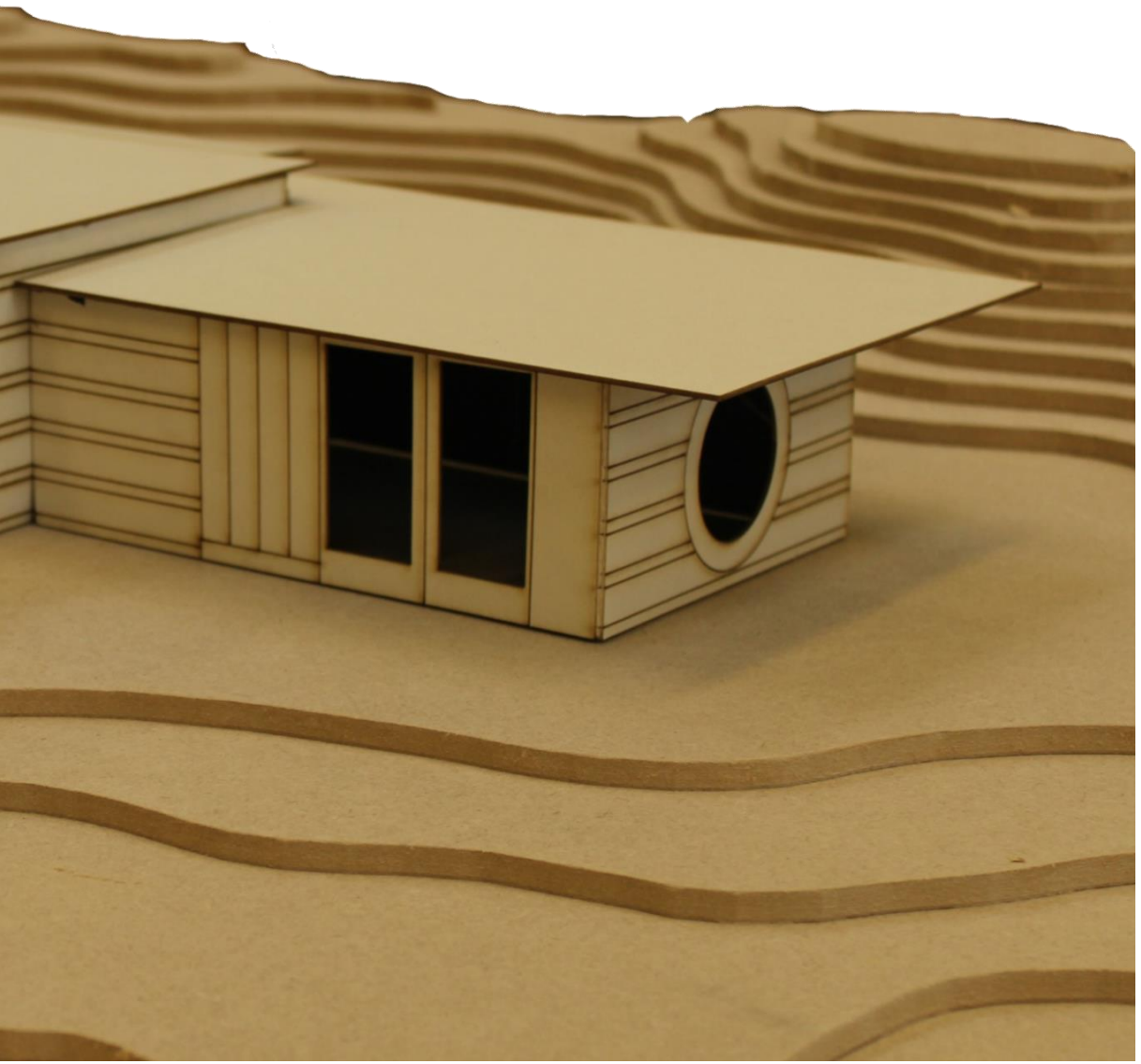
Once the MDF had been CNCed, there were scraps of MDF fibres all around the edge. These would need to be removed in order to create a clean final product. Luckily these shreds came off very easily with sand paper. So once cut, I sand papered all of the edges which got rid of the rough edges and created a clean final product.

This picture better shows how the centres of the lower levels were removed in order to make the landscape much lighter. Without this middle carved out, the model would have been too heavy. The centre wasn't necessary to any structural support.

Frank Lloyd Wright – 3D test piece

Frank Lloyd Wright – 3D test piece





Here is have my model on its landscape. I think this model has turned out magnificently because the model fits the landscape, all of the features from the initial model have carried over and I am very happy with this outcome.

The contours of the landscape were designed to follow the shape of the building. Where the model follows an L shape, the contours curve inwards and almost surround the building. Around the back, the terrain raises and encloses the building. This emulates Frank Lloyd Wright's style as he tends to build his designs into the surrounding landscape.

Next, I need to incorporate trees and greenery to give a more lived in feel to the landscape. I might also try and put some battery powered LEDs inside and some Perspex behind the windows to give it some reflectance.

Frank Lloyd Wright – 3D test piece

Here I have added trees and bushes to the landscape. The tree coverage at the moment is a bit sparse, but this can be fixed at a later date. I intend to eventually have trees surround the entire model. This is because Frank Lloyd Wright incorporates his models' surroundings into the design concept. Therefore by having it set into the landscape, I am giving a better representation of Frank Lloyd Wright's work.

Frank Lloyd Wright – 3D test piece

To be added later

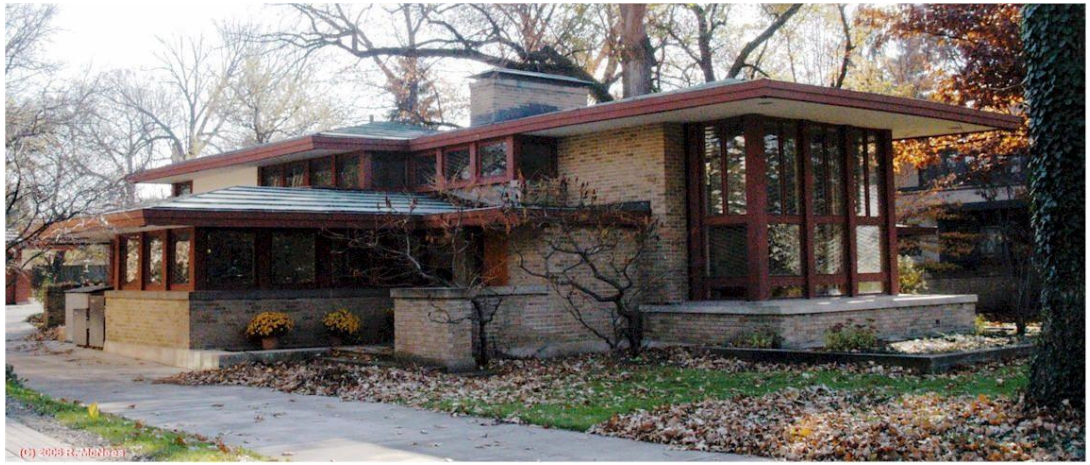
To be added later

Frank Lloyd Wright – William Drummond

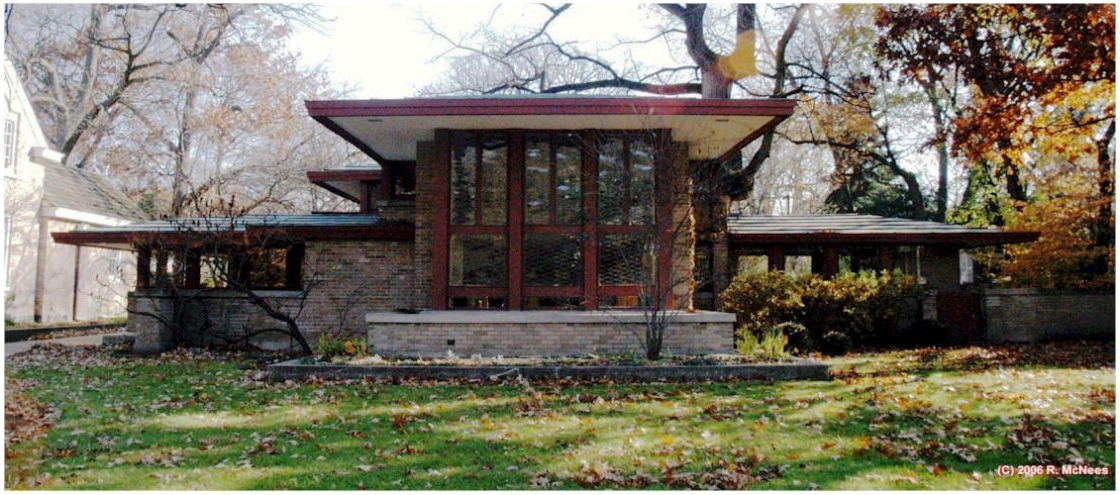
Frank Lloyd Wright – Combined Piece

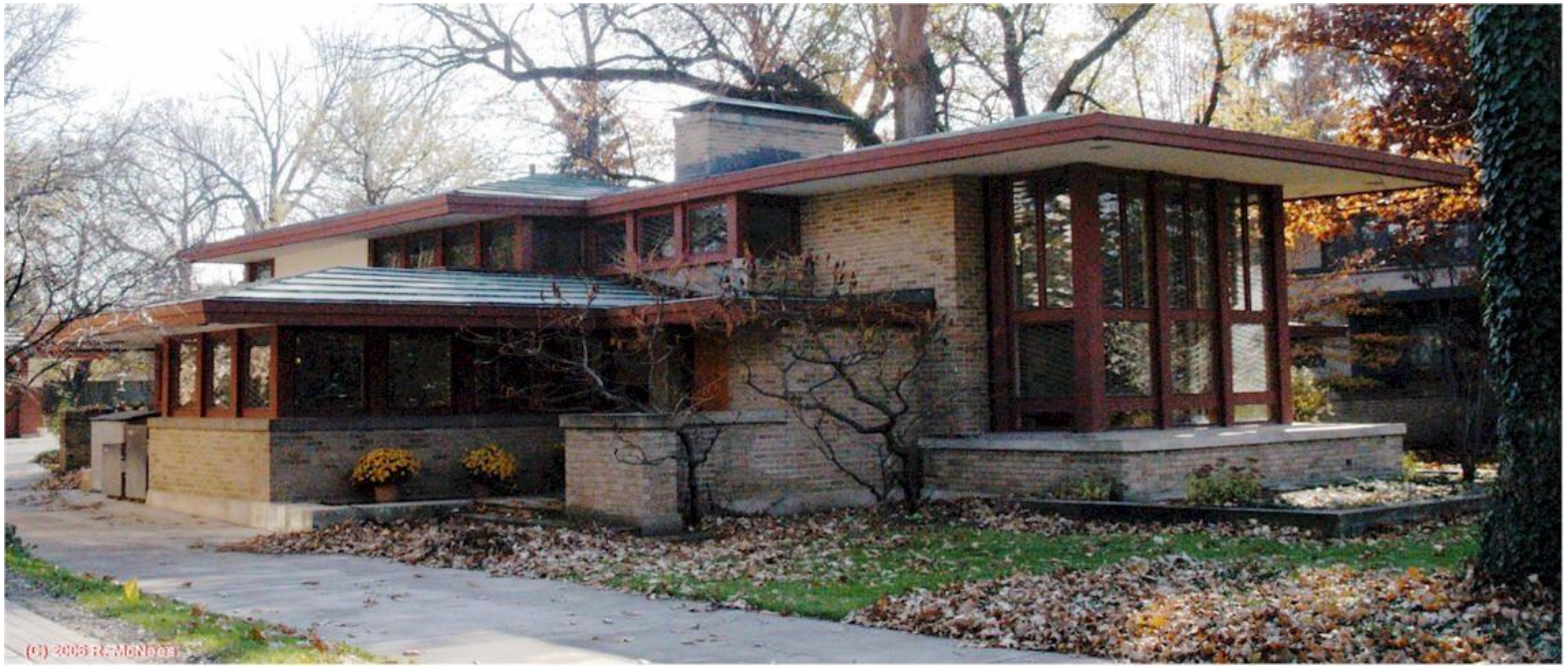
For this project, I intend to combine 3 types of building: 2 of Frank Lloyd Wright's Usonian houses and a Prairie style house. The Usonian house I previously constructed will be a prominent feature in this new piece. As well as this, I want to include a different Usonian house by Frank Lloyd Wright. This has a wider variety of features that I wish to include as part of the model. The third model I wish to combine is a style of Prairie house. For this, I wish to include features from American architect William Drummond.

This combination of different houses should create a unique style of model which incorporates many different features from a variety of buildings.



William Drummond was another American architect who worked with Frank Lloyd Wright to individualize American architecture. William Drummond designed prairie houses in the early 1900s. This building, his Albert Muther house, was constructed in 1910. This style of prairie house is the one that I prefer. I really like the large windows on the front which gaze over the rest of the garden. These windows also have an impact as they are the largest in the model. It comes in two floors with the majority of it being on the first floor. This is the Prairie house that I wish to combine with the two Frank Lloyd Wright Usonian houses.





Frank Lloyd Wright – Frinton Area Research

The area I am planning a construction for is Frinton-On-Sea. This area has lots of large houses with vastly white colour schemes, large windows and magnificent sea views. I intend to build below this as to not obstruct their views. This is more likely to get planning permission.

The specific area for my construction is a patch of land, on a cliff edge, based off of a road called The Leas in Frinton. This is an plot of land around 45m long and looks over a cliff into the sea. This provides the opportunity for me to include the large windows and open plan designs like Frank Lloyd Wright and the other buildings within Frinton-On-Sea.

There are aspects of Frank Lloyd Wright I wish to include. For example, large stone pillars and large windows with a rather horizontal orientation. This also coincides with the general Frinton-On-Sea architecture so my model will fit into the general area.