

andrew harris woodwork

Built in bookcase



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Introduction

This plan is for the bespoke space we had available. You will need to adjust the measurements to fit the space you have available.

I have tried to ensure all steps are covered in these plans but if you find any errors in the plans or have a question then please email me at info@andrewharriswoodwork.com to let me know.

All my builds are made with pocket hole joinery. You will need a pocket hole jig tool such as a Kreg Pocket Hole Jig in order to build them.

Shopping List

Size	Length	Quantity
1 by 2	8 feet	1
1 by 3	8 feet	6
1 by 3	8 feet	6
1 by 4	8 feet	8
1 by 4 Select	8 feet	5
1 by 6 Select	6 Feet	1
¾ inch Plywood	8 feet by 4 feet	3 sheets
¼ inch Plywood	8 feet by 4 feet	2 sheets
1,25 inch Poplar trim (1/4 inch thick)	4 feet	12

You will also need:

- 1.25 inch pocket screws
- 1.25 inch wood screws
- 2 inch wood screws
- ¾ inch finishing nails
- Wood glue
- Door knobs
- Shelf pins

Estimated Material Cost: approximately \$800 including the LED lights.

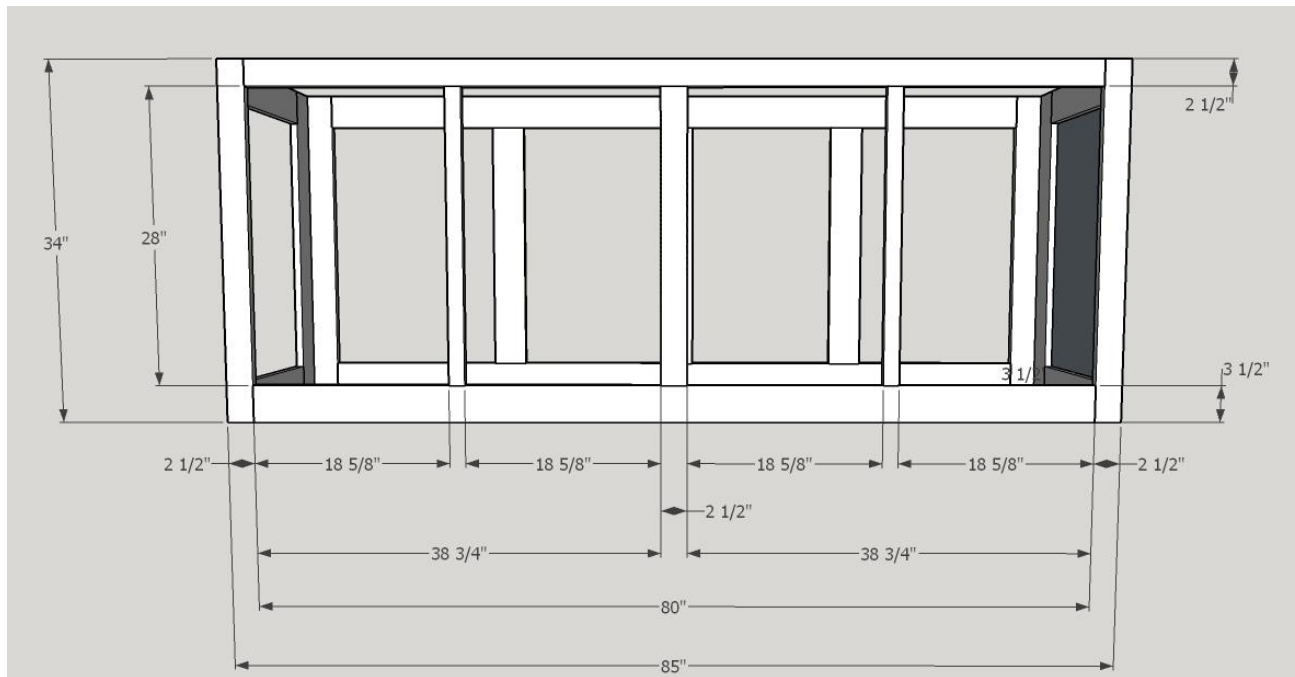
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Cut list

I haven't included a cut list as this book case was made for a certain space. You will need to modify the dimensions on the plan to fit the space you have available.

Step 1 – Make the Base Carcass

Front elevation



Side and center support are 1 by 3

Supports between doors are 1 by 2

Top rail is 1 by 3

Bottom rail is 1 by 4

Top and bottom rails joined to side uprights with pocket holes

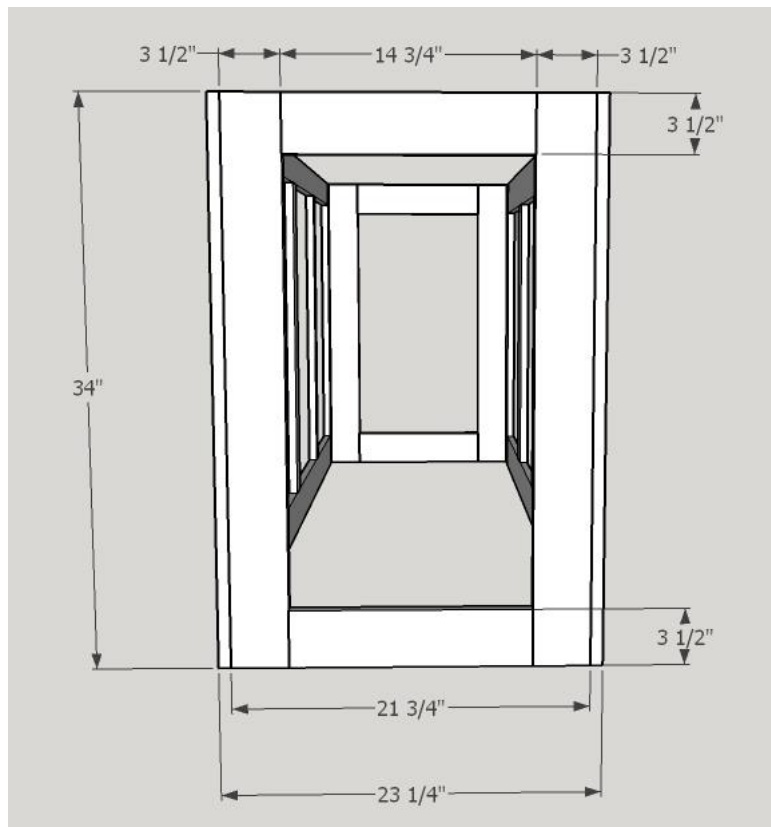
Vertical supports joined to top and bottom rails with pocket holes

Total width of 85 inches was 0.5 inch less than gap to allow it to easily slide in.

Added some trim to hide the gap at each end once in place.

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Base Carcass End Elevation

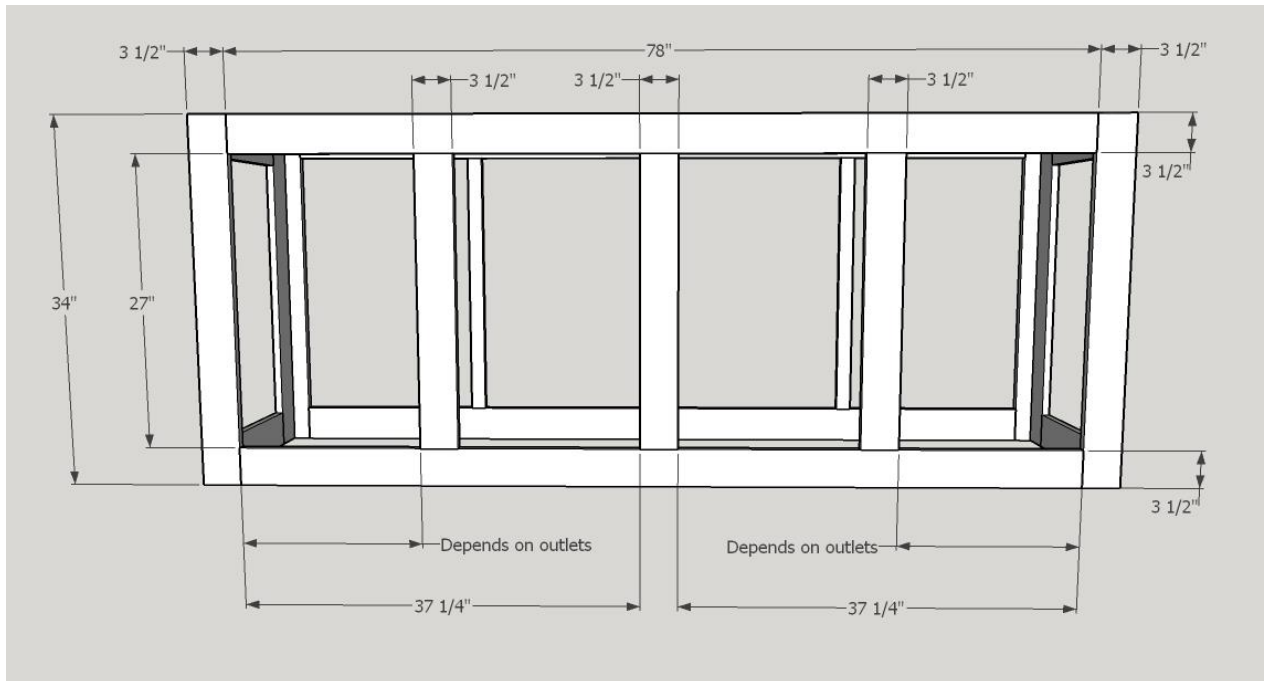


All pieces are 1 by 4

Horizontal pieces joined to vertical pieces with pocket holes

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Base Carcass Rear Elevation



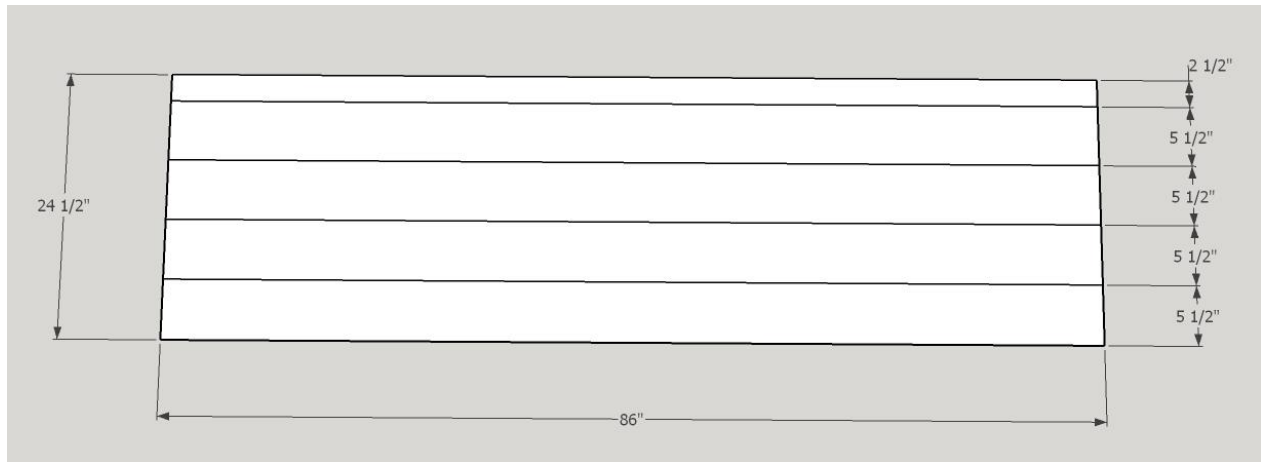
All pieces are 1 by 4

Top and bottom rails joined to side uprights with pocket holes

Vertical supports joined to top and bottom rails with pocket holes - I fitted these middle supports once I had put the piece in place to make sure they were not where the electrical outlets were.

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Step 2 - Base Top



Three pieces of 1 by 6 (actually measures 5.5 inches)

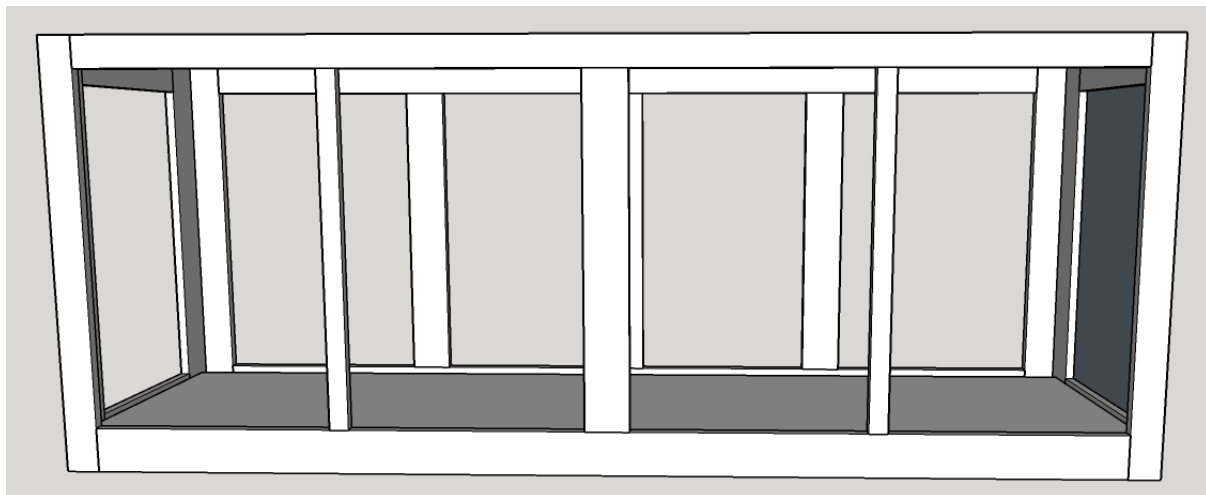
One piece of 1 by 3 (actually measures 2.5 inches)

The walls were bowed so I cut each piece to fit and then joined them all together. Small gap of about 1/8 inch each side which was filled with caulk and painted.

You could use 3/4 inch plywood instead with some trim on the one visible edge or a piece of 1 by 2 as the trim.

Step 3 – Bottom Shelf of base unit

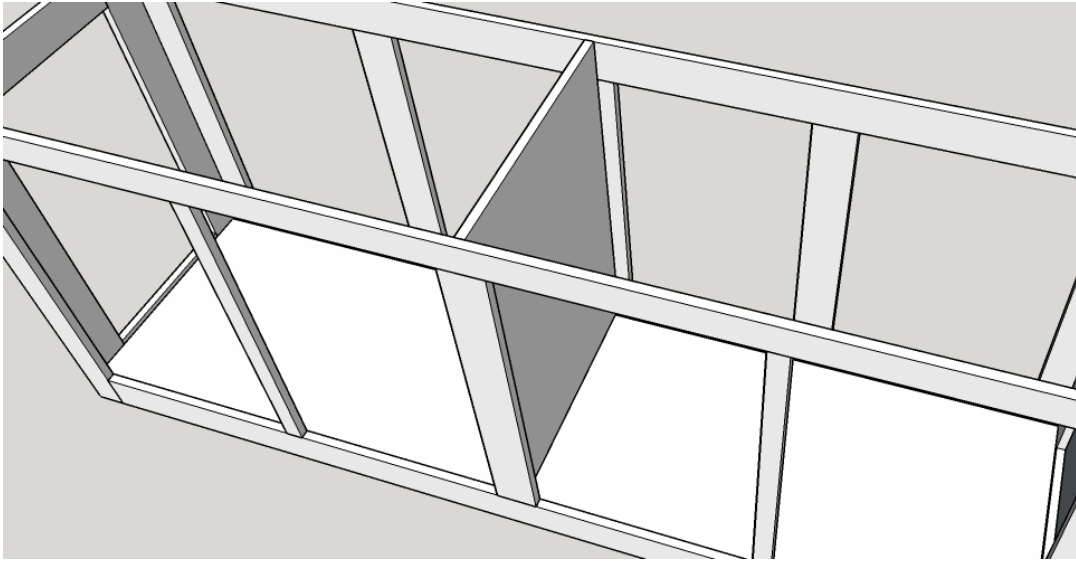
Cut the bottom shelf to fit. I used 3/4 inch plywood. I actually did it in two pieces as you would not see the join due to the middle vertical divider.



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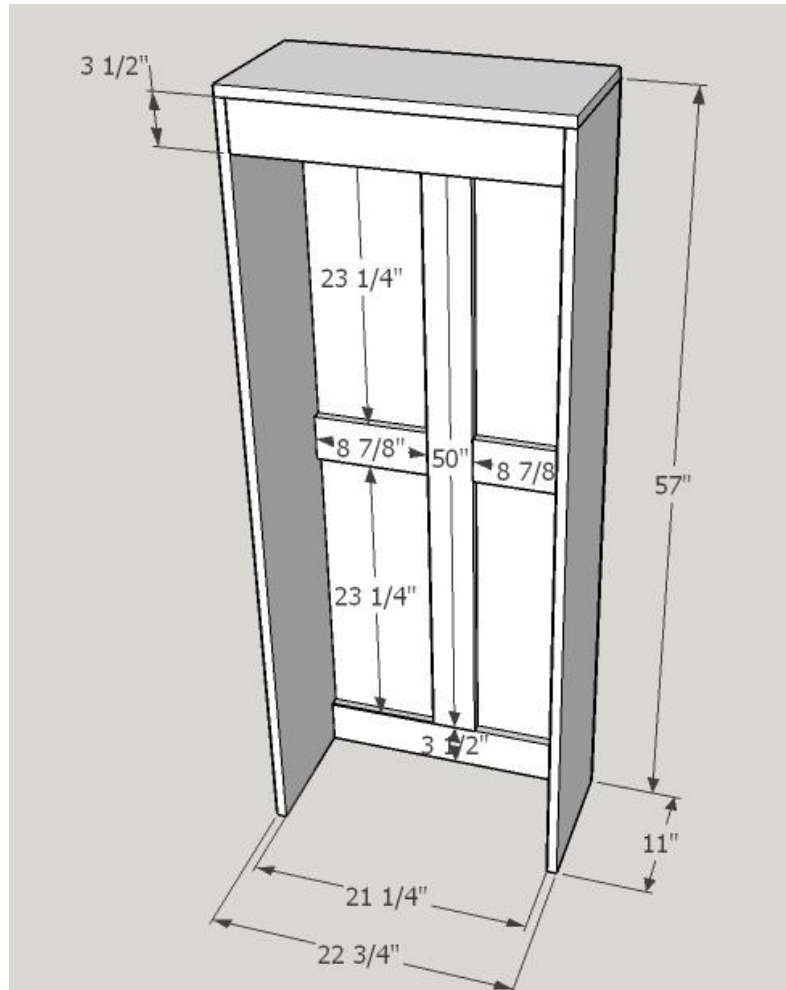
Step 4 – Add middle divider

Next step was to add a divider in the middle of the base unit.



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Step 5 - Bookcase left and right pieces



Side pieces made from furniture grade pure bond plywood $\frac{3}{4}$ inches thick.

Pocket holes facing down on the inside edges which I used to fix to the top of the base. Then used $\frac{1}{4}$ inch by 4 inch trim to put around the inside to cover the pocket holes.

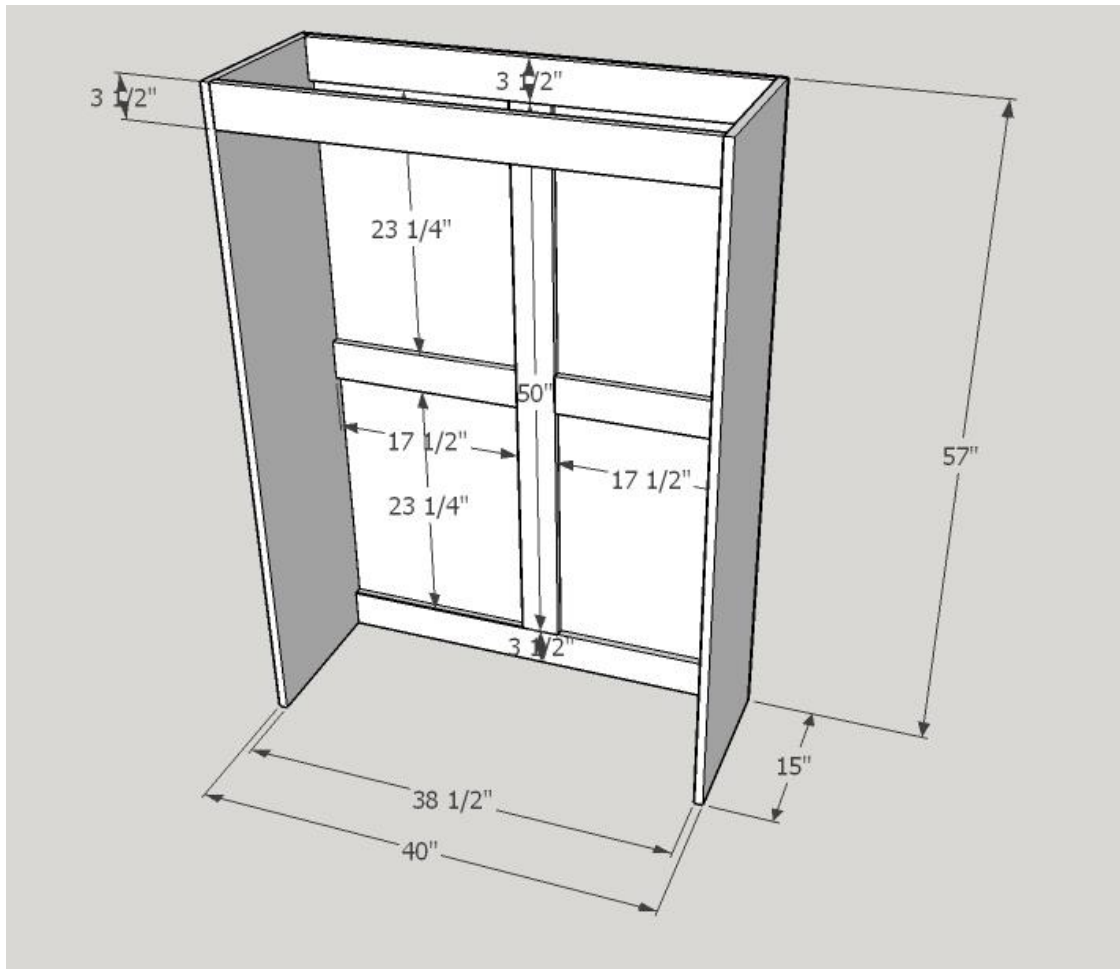
Also added a 3.4 inch plywood top which was then drilled to let electrics through and had the led strip light fitted to it.

Pocket holes on the back side of the cross pieces at the back so they were hidden from view.

The cross piece at the front was hidden by the 1 by 6 when adding trim later so I put the pocket holes on the outside as that trim would hide them.

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Step 6 - Bookcase middle piece



Side pieces made from furniture grade pure bond plywood $\frac{3}{4}$ inches thick.

Pocket holes facing down on the inside edges which I used to fix to the top of the base. Then uses $\frac{1}{4}$ inch by 4 inch trim to put around the inside to cover the pocket holes.

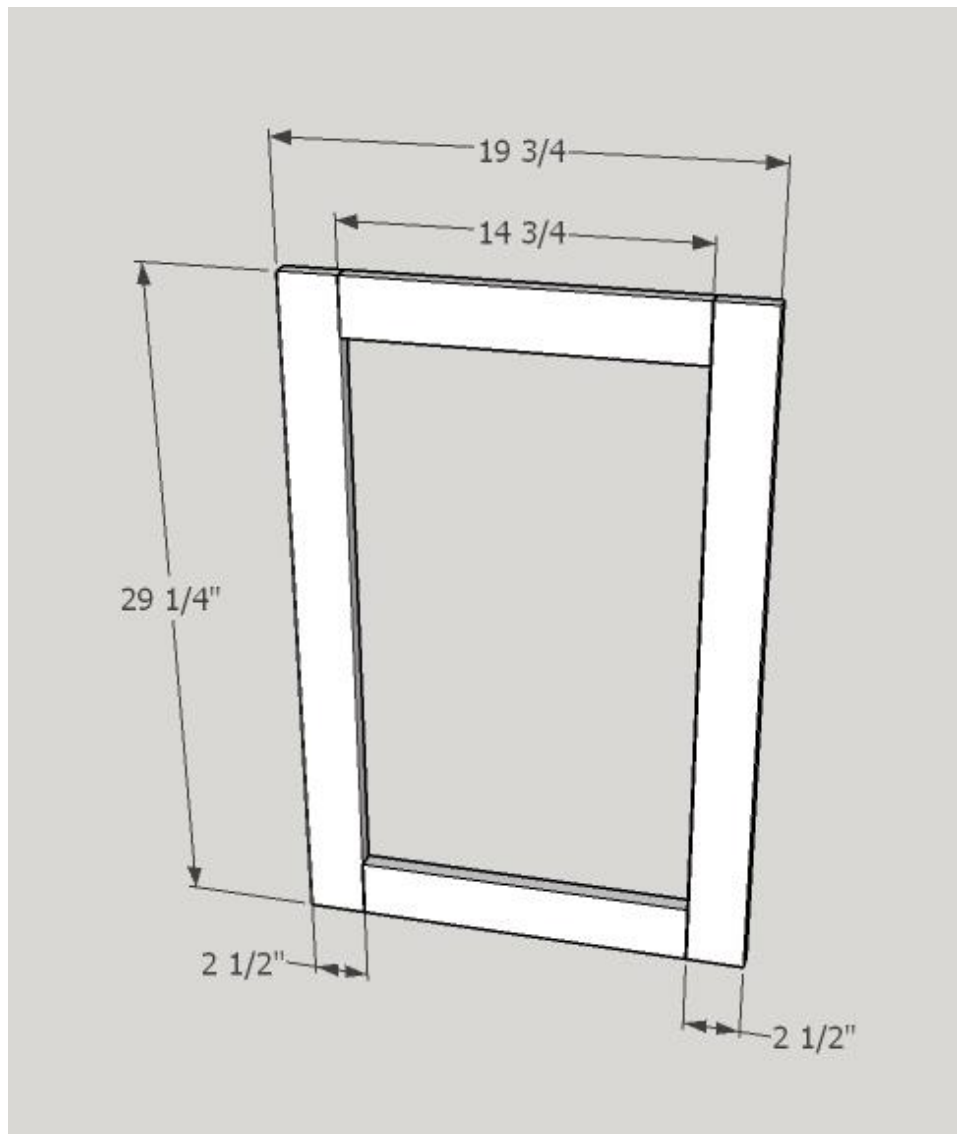
Also added a 3.4 inch plywood top which was then drilled to let electrics through and had the led strip light fitted to it.

Pocket holes on the back side of the cross pieces at the back so they were hidden from view.

The cross piece at the front was hidden by the 1 by 6 when adding trim later so I put the pocket holes on the outside as that trim would hide them.

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Step 7 - Doors



$\frac{1}{4}$ inch slot routed into each piece to fit $\frac{1}{4}$ inch plywood panel.

Pocket holes on back but filled and sanded so would not see when door open.

Fitted doors with overlay hinges.

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Step 8 - Shelves

Used $\frac{3}{4}$ inch plywood with 1 by 2 trim on the front. The trim was fitted to the shelf using pocket hole joints.

Made the shelves to measure once everything else put together.

Cut $\frac{1}{8}$ inch shorter than actual space to allow for paint and a little movement.

Drilled holes for 5mm shelf pin pegs using a Kreg Shelf Pin Jig.

Step 9 - External trim

I added 1 by 3 trim to the sides of each book shelf section using nail gun and glue. There was a about 1.4 inch gap between each section and the trim also helped hide the gap.

Then added some 1 by 6 across the top to fill in the space between the 1 by 3 pieces as shown below and then the crown molding over the top of that.



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Step 10 - Internal Base Cabinet Trim



Added $\frac{3}{4}$ inch plywood at back on left (to fix electrics to). Added $\frac{3}{4}$ inch plywood at back to right as cheaper and didn't need to fix electrics to it. In the photo above you can see I made the back panel removable incase I ever needed to access the electrics.

Used $\frac{3}{4}$ inch plywood on inside of each end.

I also used some $\frac{3}{4}$ inch by 1.5 inch Poplar trim to make it look neat.

Step 11 – Finishing

Caulked all joints and then primed and painted.