

## DIRECTIONS FOR BUILDING THE "MUSSEL-SHELL OBSERVATORY

**The 8x8 floor is made of 2 sheets of 3/4" plywood,**

- cut one sheet in half length-wise into 2 2x8 pieces
- the other sheet make 5/8" shorter by cutting to 95 3/8".
- The 2 halves sheets are each hinge-mounted onto the whole sheet
- (one panel projecting 5/8" one direction and the other 5/8" the other way)

Then lay on 6 2x4 x 92 1/4" studs "sleeper joist" (19"center to center) and screw fasten only the center plywood panel to the sleepers.

Then cut 4 sheets of 1/2" ccx plywood into 6 ft length and make into two side panels 6' x 8' each by screwing 2x2 along the outside perimeter of the panels and onto a 2x4 at the joint, (the "bottom 2x2 should be 3/4" from the bottom edge of the plywood)

**Now we have a "wall"**

This wall can be mounted on the outside of the 2ft x 8ft floor panel with the 3/4" plywood projecting down along the flooring plywood

Next we cut 4 panels of 1/2" plywood for the end panels: [See marking-cut dimensions drawing](#)

Mark one 8 ft side of panel to 6 ft and the other side 57', mark and cut off this is the topside

mark the bottom side to 23", along the end 57" side measure up from the bottom side 18", draw line to

the 23" mark and cut the corner off, do the same with the other 3 panels.

2 panels are mounted onto the "walls" and the side floors on one end, this will be the back of the observatory

The other 2 panels will be cut narrower for the front door opening

(if you cut an 18" (or 20")wide strip off from the shorter side then the 2 will make a 36" (40") door opening

36" wide door is wide enough for most telescopes) then mount the 30" (26") panels onto the opposite wall-floor.

Push the 2 walls together to close the observatory.

the 4 triangle cut-offs can be hinged on the end panels and folded down when Observatory is in open position.

Screw a angled flashing over the top, fastening it to only one side and it will be rain proof

The two sides are balanced therefore a child can open and close the observatory

In two opposing corners mount a triangular "desk" brace for your computer

Hinge one door on the outside and the other on the inside so they won't interfere with the closing-opening.

Be sure to finish the observatory with exterior acrylic paint or EIFS

An opening can be cut in the center for the "pier" : there is no center joist

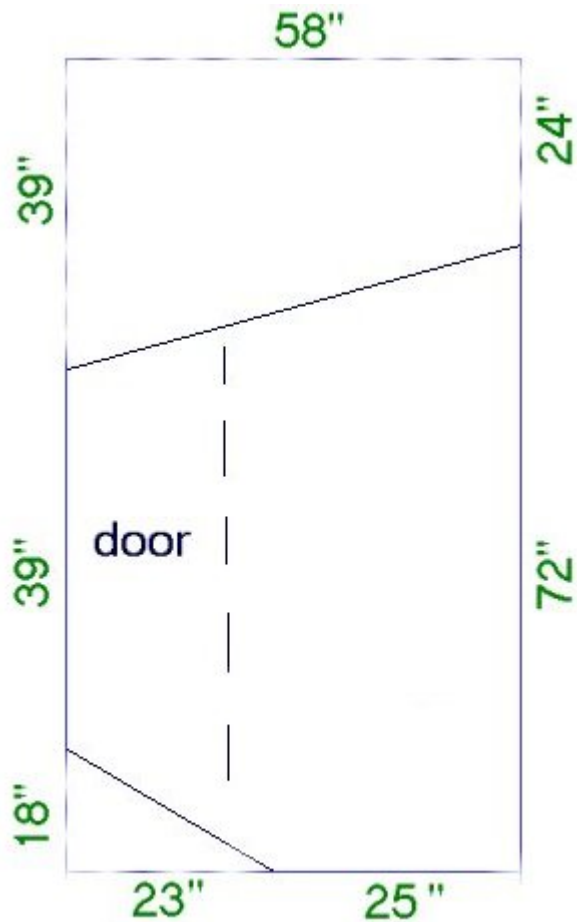
The complete "MUSSELSHELL" Observatory can be mounted on a 4x8 utility flatbed trailer or

placed on a concrete slab in your backyard,

You can insulate the observatory by gluing foam sheets on the inside walls or with EIFS on the exterior ( EIFS Exterior Insulation and Finish System)

Good luck in your building, and enjoy using your Mussel-shell

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### MATERIAL LIST FOR MUSSELHELL-SCHALET OBSERVATORY

1 c.y. concrete for 9 x 9 ft concrete slab (if using a pier for telescope then insulate from slab)

6 8ft 2x3 or 2x4 pressure treated "sleeper"joist

2 panels 3/4" (CDX) plywood 4x8

8 panels 1/2" (CDX) plywood 4x8

10 8ft 2x2 wood corner connectors and side top rails

2 6ft 2x3 wood joint connectors (for the side panels)

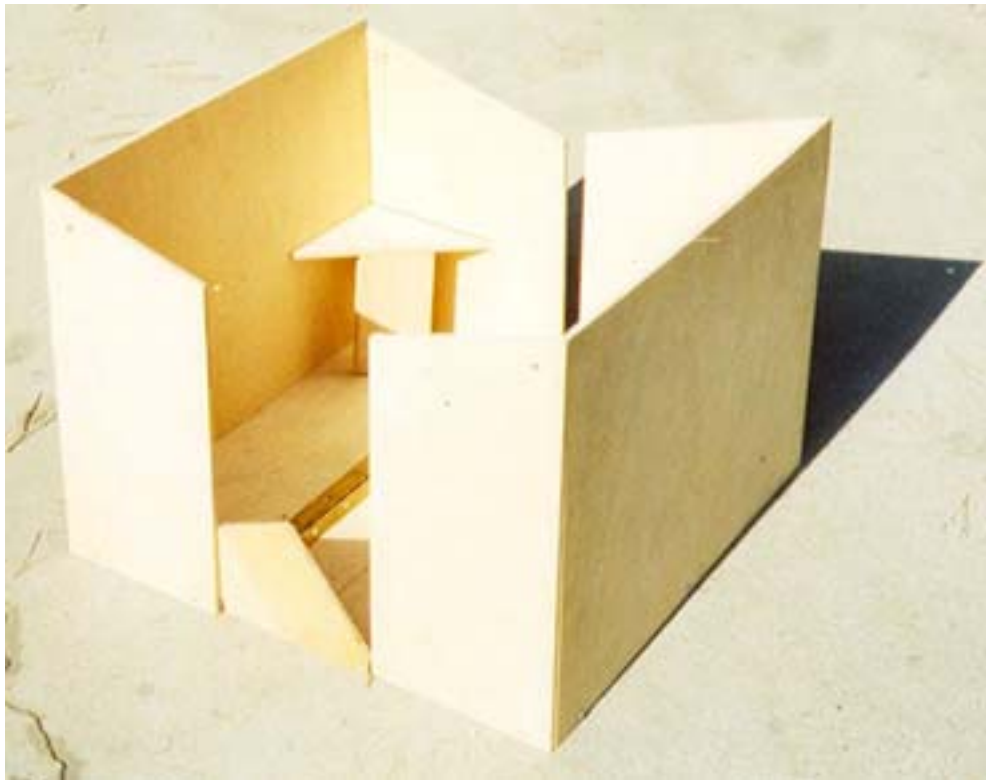
1 8ft angle flashing (metal or pvc plastic)

1 1/2 " galvanized drywall screws

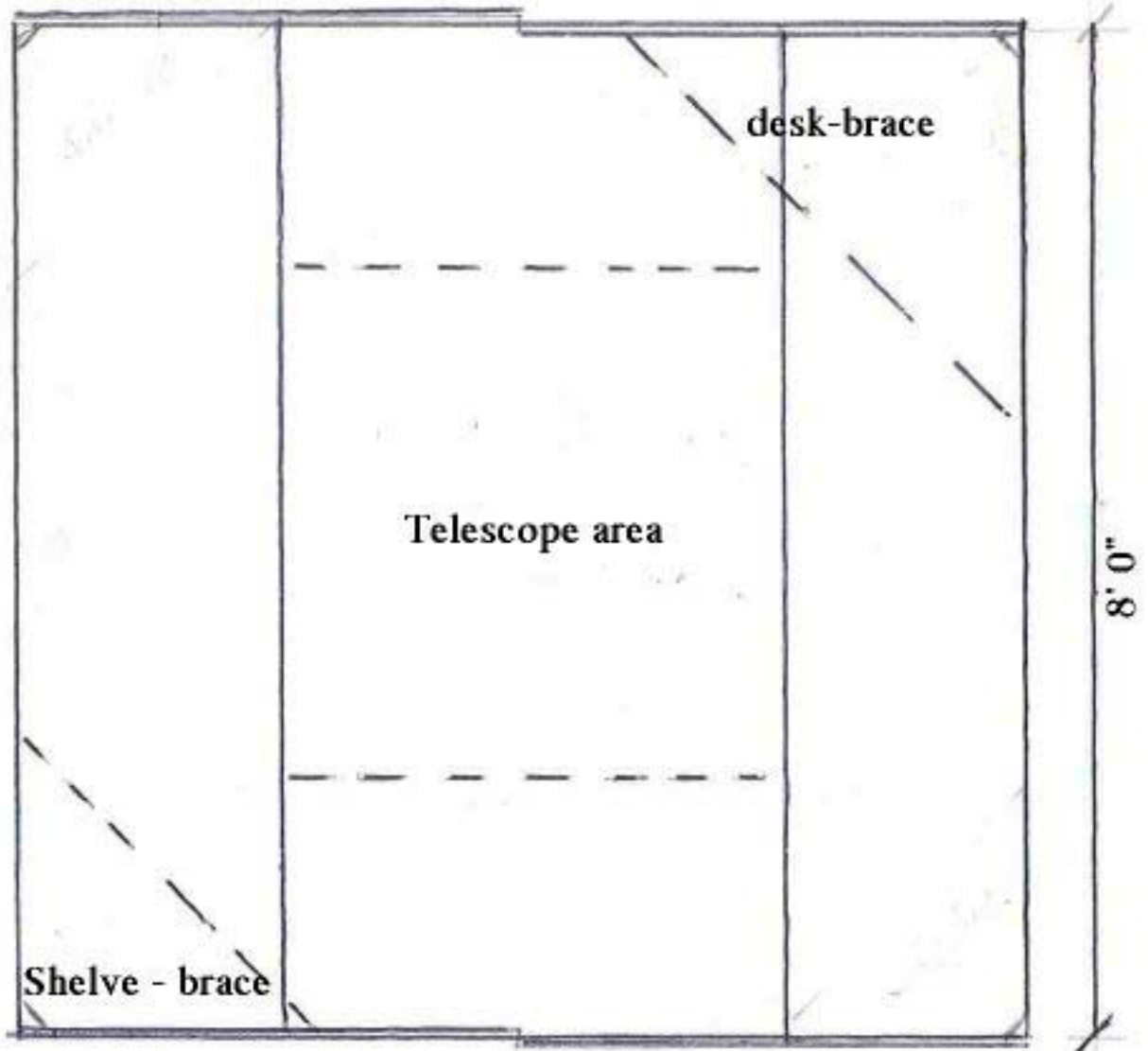
4 galvanized strap or T hinges for the doors

4 Galvanized strap or T hinges for the floor panels

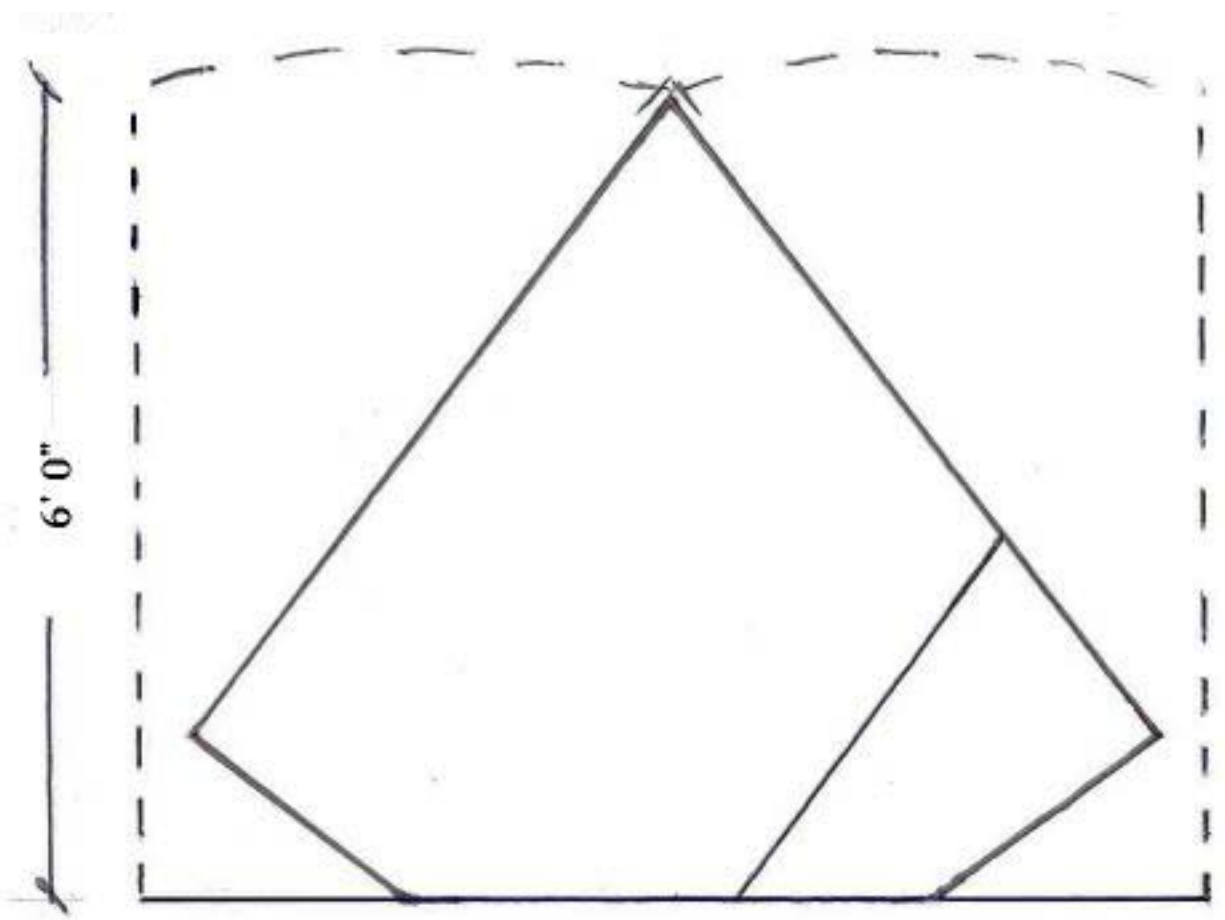
Estimated Material cost about \$ 300.00



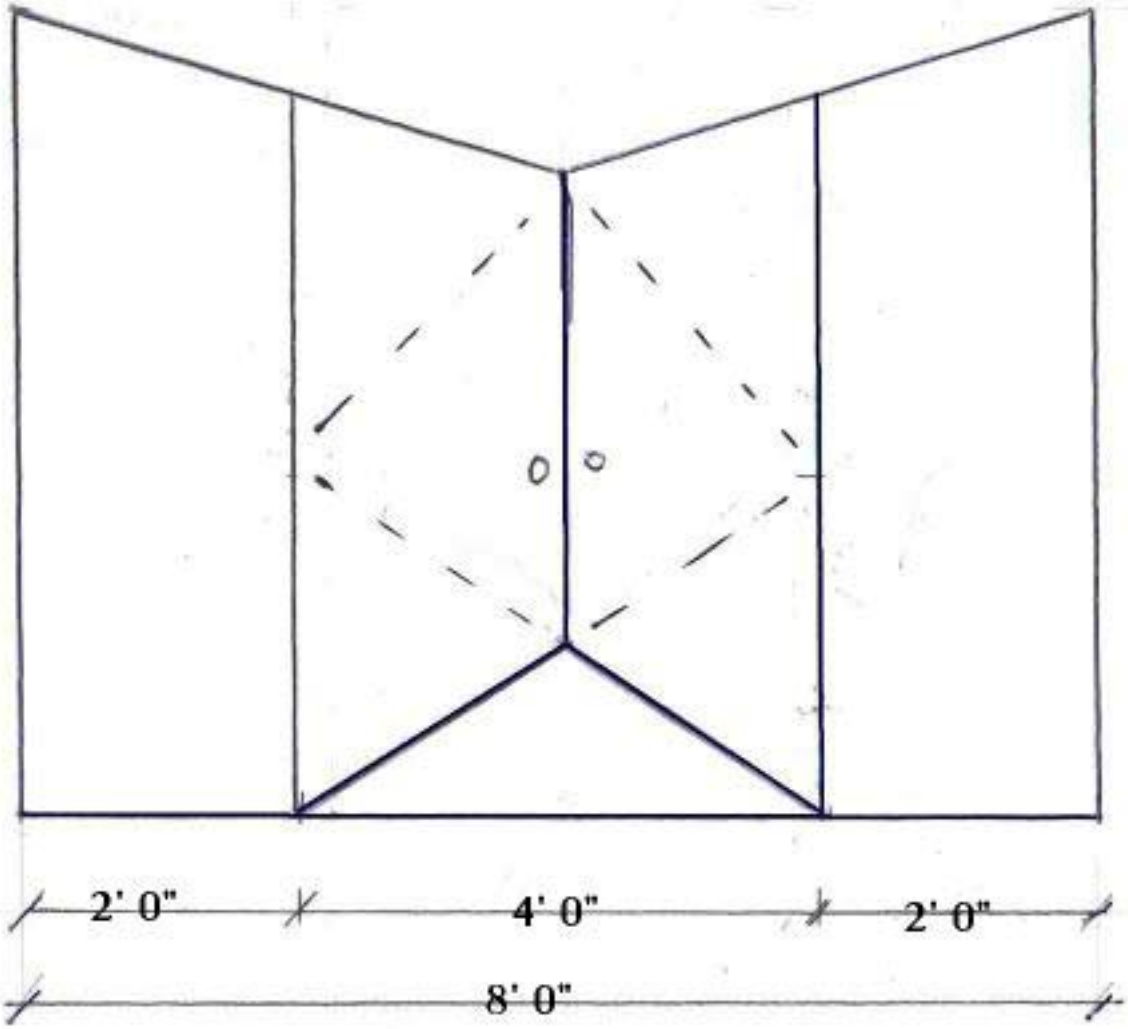




Floor plan

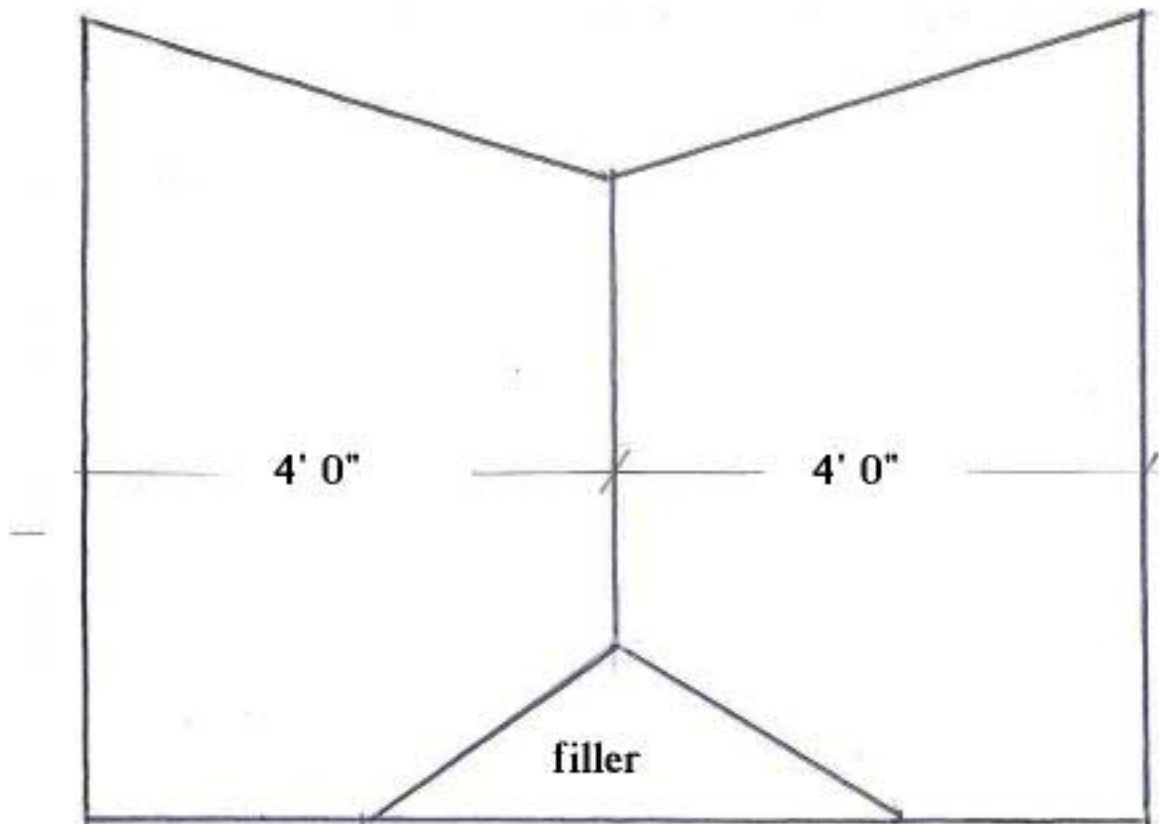


Rear view open and closed



Front View Open





Rear view open