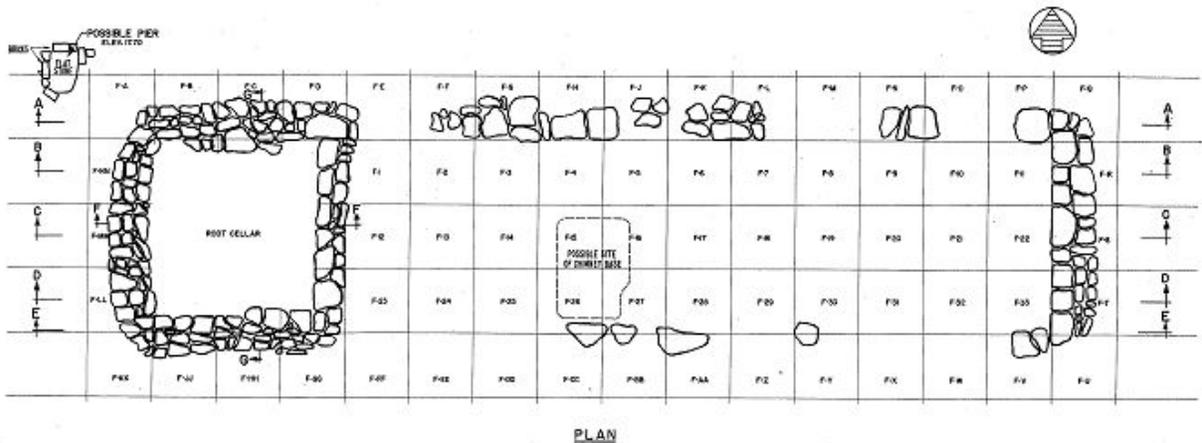


# Original Alden House Model

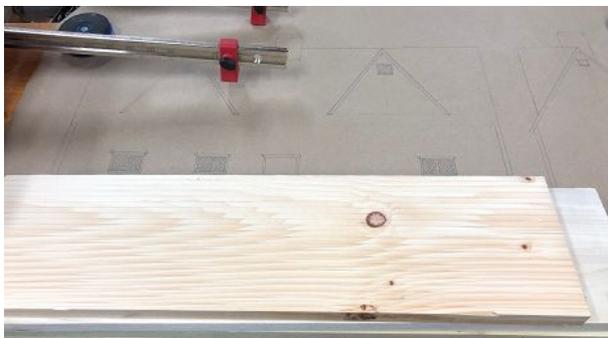
By Tom Shirley

The [Alden House Museum](#) is planning an archaeological exhibit that is scheduled to open in the spring of 2019. The exhibit will include artifacts found during a 1960 archeological dig and will be supported by several reproduction pieces based on those artifacts. The 1960 dig uncovered the stone foundation of the original Alden family house. I was asked to make a scale model of an historian's rendition of the structure that was based on the data and plot plan derived from this dig.



The plot plan shows remnants of the foundation as well as a cold cellar, which would have been below the floor, on the left and the chimney base just off center in the middle of the plot.

The historian used the location of glass and pottery shards (broken pottery would have been swept out the door) to determine the location of the windows and doors. The angle of the roof and location of gables is based on historical references. The historian also informed me that the siding would have most likely been clapboards while the roof was wooden shingles.



I started by making a scale drawing using a 1" to 2' scale. This allowed me to properly place the doors, windows, gables and the chimney so they could easily be transferred to the work pieces.

Since the model would be painted white I chose poplar as it is easy to work with and takes paint well. I started by gluing up 7 panels for each wall, each side of the roof plus one extra just to be safe.

To replicate the clapboard siding I installed a 1/4" dado stack in the table saw and tilted the arbor to 10° to match the angle of the clapboards. The dado stack was elevated just enough above the table so that the lower edge was even with the table top. The fence, with a sacrificial board attached, was set right at the edge of the dado. I then ran each panel through the dado and then moved the fence out 3/16" for each successive pass.



With the clapboards fabricated I transferred the location of each window and door onto the panels. To produce a more realistic look for the doors and windows I flattened those spaces using a router plane. This would also make it easier to attach the window and door frames.

For each window I used a v-gouge to create a diamond shape pattern to mimic that of period leaded glass windows. I also created the appearance of individual boards on the doors.

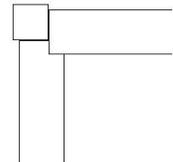
To make the door and window trim I cut small strips to scale. These were attached with glue and a pneumatic pin nailer.



To make the peaks of the end walls I transferred the angles from the drawing and cut them on the bandsaw. The edges were fine tuned on the benchtop oscillating belt sander. The four walls were then glued up.



To replicate the corner boards on the house I cut a rabbet into each edge of the end panels. This allowed for a square post to be added. Doing this produced the appearance of corner boards with the proper reveal. The corner posts were glued and pinned in place.



Once the corner posts were in place they were trimmed to match the slope of the peak as were the front and back walls.

This completed the body of the house with the exception of a floor.

The next step was to create the two gables that would be applied to the front roof panel. I made these as one unit with a gable at each end. The triangular pieces were cut from clapboard stock and the windows were created using the same steps outlined above. More clapboard stock was used to create roof panels and the four pieces were glued up.



The roof angle was transferred to the gable assembly and a jig was created to hold the gable assembly at the proper angle so that each end could be cut off with the bandsaw. Again the edges were cleaned up with the sander.

The roof panels were also run through the 10° ¼" dado on the table saw to create a basis for the roof shingles. Once the gables were finished the roof was marked and the marked surface was smoothed with the router plane. At this time a chimney was also fabricated and bricks were carved using the V-gouge. The location of the chimney was also flattened.



Next came the fun part, the time consuming carving of the roof shingles. This was done with a V-gouge.



Starting at the bottom and working up to the top of the roof a slot was cut to represent the gap between the shingles. Care was taken to make sure the shingles were staggered. The top row was not carved so that it could look like a roof cap that is common on wooden shingle roofs.

With the shingles carved it was time add the gables. They were glued and pinned to the front roof panel. The two roof panels were attached to each other using glue and pins with the house acting as a form. Once the glue-up dried I added three stretchers inside the roof. The stretchers act as both supports and guides for the placement of the roof on the house. This was needed because the roof was to be removable. The final touch on the roof assembly was to add the chimney.



A floor was cut from ¼" plywood and all three pieces were painted. BIN shellac primer was used followed by white paint from a spray can.



The final touch was the addition of the image of the archeological dig to the inside floor. This way people could see the relationship between the excavated foundation and the house.

The house was delivered to the museum and a photo was taken in the room where the exhibition will be on display.

This project was fun and presented several problems to solve requiring some techniques I had not used before.



