

## Creating a Foam Core Model with Envisioneer

To build a scaled architectural model of a building you can use the Elevation and 2D Plan View tools in Envisioneer to create views of a house that can be printed and pasted onto foam core boards. The instructions in this document step you through printing out elevations and a roof plan, all as separate drawings.

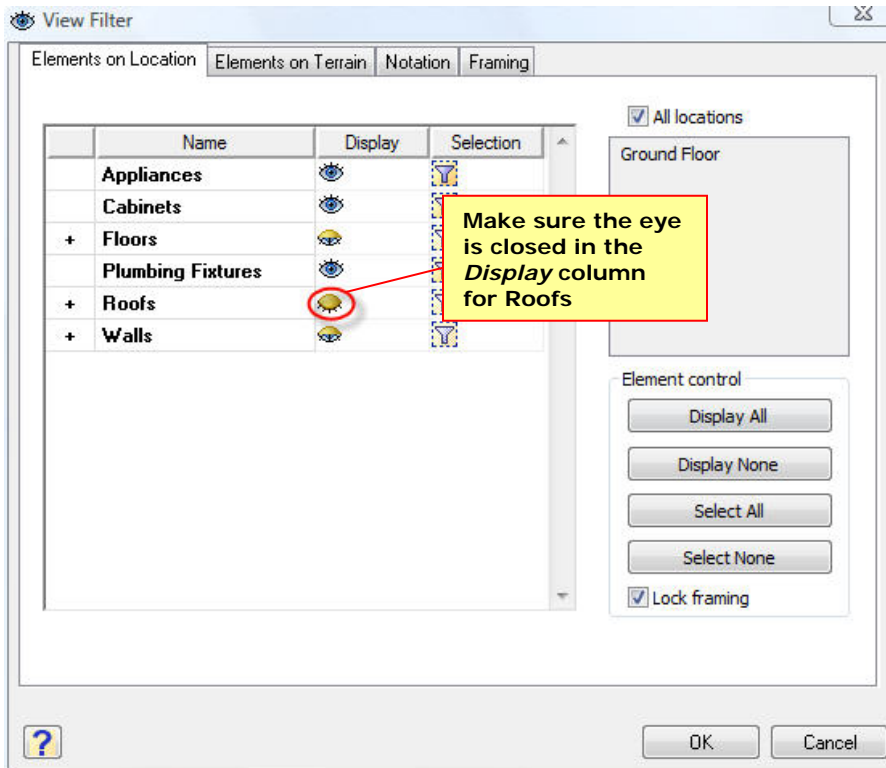


When preparing a model in Envisioneer for the purposes of building a foam core model, the following factors are important:

1. Turning off the visibility of elements
2. View scale
3. Display modes

### To create a foam core house:

1. Build a model in Envisioneer. Make sure that all the walls, doors, windows and roof are in place before continuing.
2. Select **View > View Filters > View Filter**.
3. In the **View Filters** dialog turn off the visibility of the roof by clicking on the eye icon next to the Roofs element. The eye will close indicating that the visibility has been turned off.



4. Click **OK**.

The model is displayed without the roof. We don't want the elevations to include the roof. It will be printed separately.

Next you need to determine the scale at which you want to build your foam core model. You need to decide what size of paper you will use for printing and make sure that your drawing will fit on the paper by selecting an appropriate drawing scale. The scale is very important and you must ensure that all views you print are at the same scale.

Let's try an example. We have a house that is 40' wide x 20' deep and we want to print it at a 1/4" scale on an 8-1/2" x 11" piece of paper in landscape orientation. Will it fit?

First convert the length of the house to inches so that the house and paper size are in the same units.

$$40' \times 12 = 480''$$

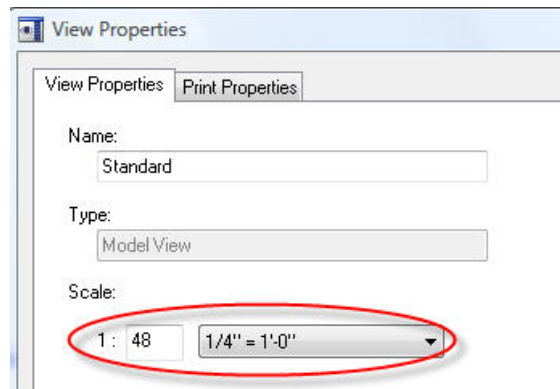
Next take the total length of house and divide it by the scale ratio. For a 1/4" = 1' scale, the ratio is 1:48.

$$480'' / 48 = 10''$$

This means that 480" of house will be represented by 10" at the 1/4" = 1' scale. The width of the paper is 11" so the house will fit on the paper.

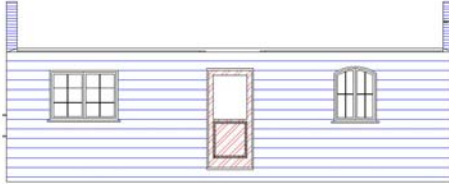
If your calculations show that the building will not fit on the paper, you can adjust either the drawing scale or the paper size depending on the paper sizes you have available.

5. To set the scale, select **View > View Properties**. The **View Properties** dialog box appears. It displays the name and scale of the current view. The default scale is 1/4" = 1'-0". If you want the scale of your foam core model to be different, then you must change the scale here.
6. Select the desired scale, then click **OK**.



7. Select **View > Elevations > Front Elevation**. The view of your model changes to a front elevation view.

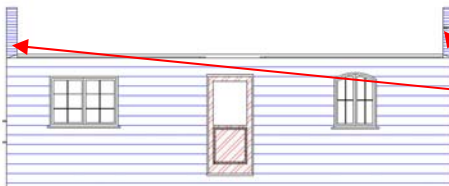
8. You can display the view in different display modes. Select **View > Display Mode > Patterned**. Materials are displayed with hatch patterns applied.



9. Select **View > Display Mode > Rendered Outline**. In this display mode materials are displayed with 3D textures applied, and elements are outlined with a black line for increased definition.



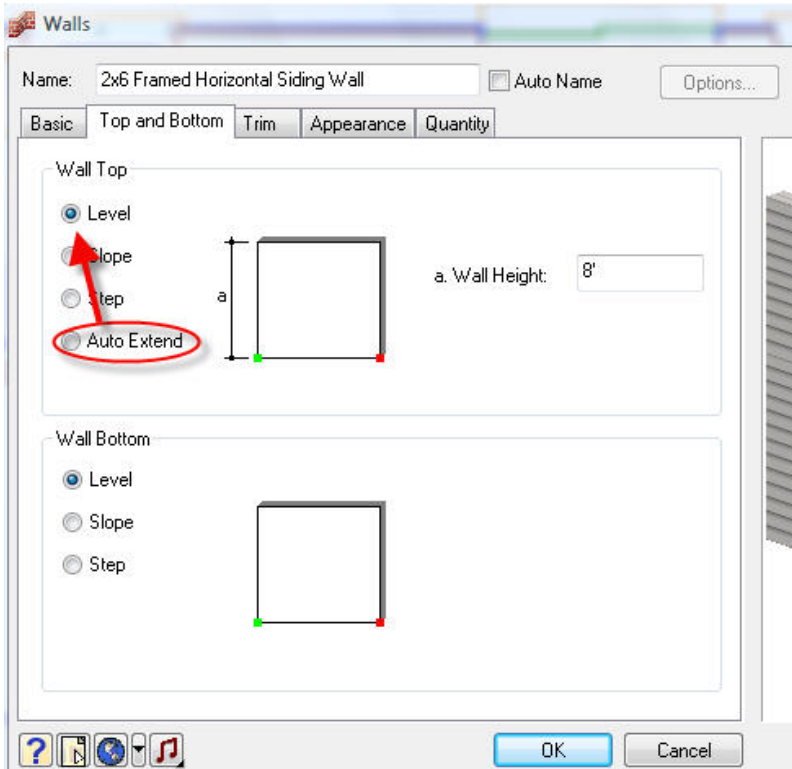
10. Try the different display modes to see which one will best suit the foam core model that you want to build.
11. In our example you will notice two walls that extend past the main wall height. When you draw perimeter walls in Envisioneer, the walls are set to automatically extend to the roof surface. This is perfect for elevations of gable end walls, but we don't want to see the extruded portions in elevations of walls that are opposite the gable ends. We need to remove them from our front elevation view, which is a non-gable end.



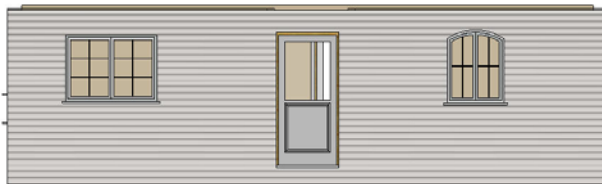
These 2 pieces represent the extruded portion of the gable end walls that are perpendicular to the current wall

12. Select **View > 2D Plan**.
13. Click on one of the walls that extrudes up to meet a gable end roof. Hold down the Shift key on your keyboard and select any other walls that extrude up to a gable end.
14. With all of the gable end walls selected, right-click and select **Properties**.
15. In the **Walls** dialog, select the *Top and Bottom* tab.

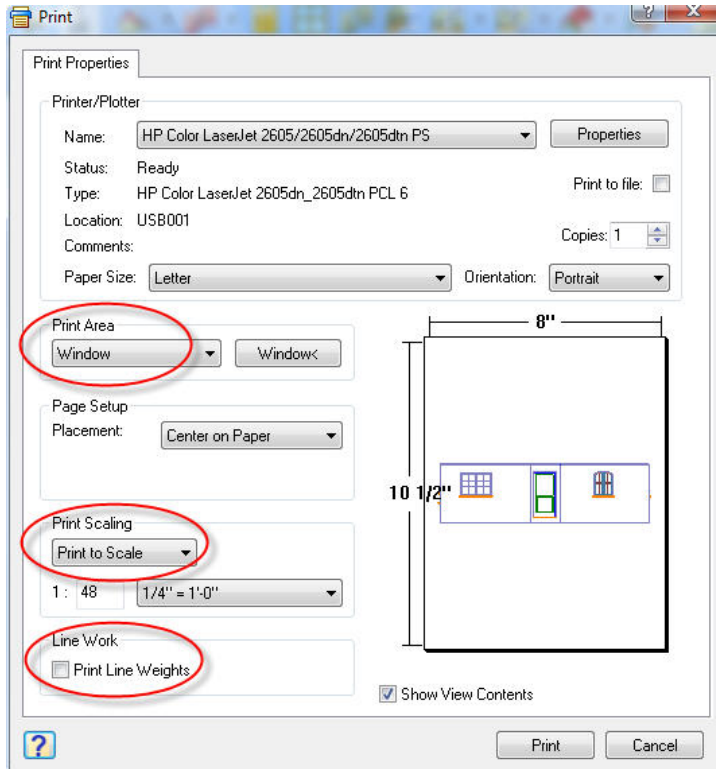
16. Enable the **Level** option instead of the Auto Extend option. Then, type in the height of the main walls (e.g. 8') in the **Wall Height** edit box. Click **OK**.



17. Select **View > Elevations > Front Elevation**.
18. Notice that the extruded portions of the adjacent walls are no longer there. You are ready to print out this elevation.



19. Select **File > Print**.
20. In the **Print** dialog, define your print settings carefully, particularly the following:
  - Print Area.* Set it to **Window**. This will allow you to define the area that you want printed. Click the adjacent **Window** button to access the drawing area, then click and drag a selection window around the area that you want to print.
  - Print Scaling.* Make sure it is set to **Print to Scale**. Select the scale that you want your foam core model to have. Ensure that all subsequent views that you print are set to this same scale.
  - Line Work.* Enable the **Print Line Weights** check box to ensure that the line weights you have specified in your model are printed.



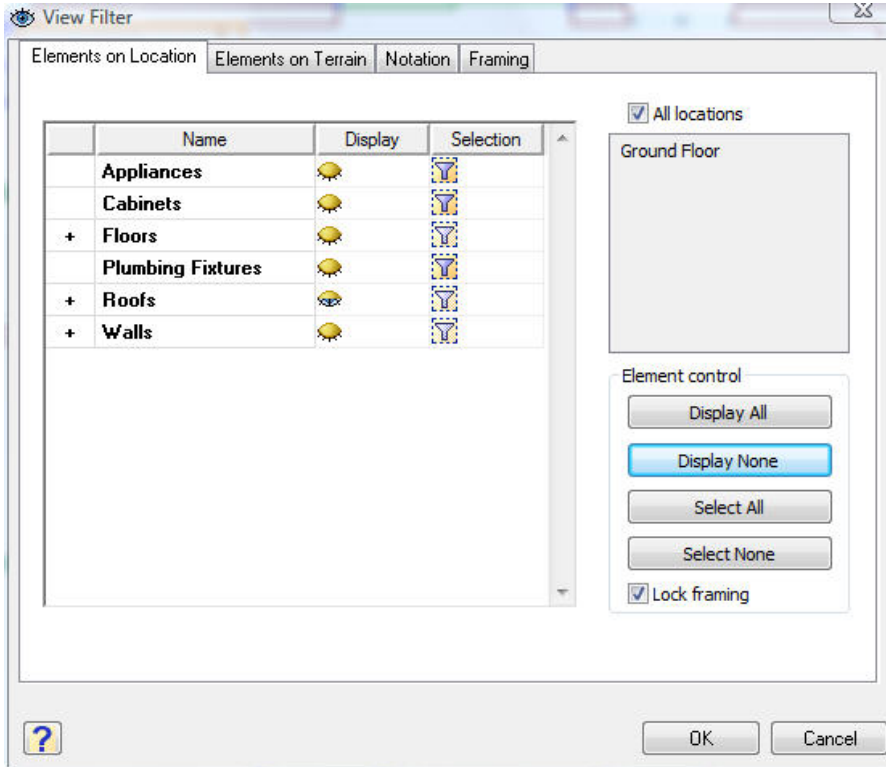
The preview pane will show you the view of your model and how it will fit on the paper. If the scale is too large for the specified paper size it will divide the view onto multiple pieces of paper that you can paste together. If you don't want to do this, select a larger paper size, or adjust the scale.

21. Click **Print**.
22. Once printed, cut the view out and paste it onto a foam core board.
23. Display the next elevation view and prepare it for printing. Repeat for the remaining elevations. Remember that you can change the display mode if you want. You may want to do all of the non-gable ends first. For elevations of gable end walls you will want to turn the Auto Extend option back on in the wall's properties.

Next we will print out the roof.

24. Select **View > 2D Plan**.
25. Select **View > View Filters > View Filter**.
26. In the **View Filter** dialog box, select **Display None**. The eye icons beside each of the elements will close.

27. Click the eye beside the Roofs element to open it. Note that it may only open halfway because the roof's framing is not visible.



28. Click **OK**. The roof is the only element visible in the workspace.
29. Select **File > Print**.
30. Define the print settings as we discussed earlier when we printed the first elevation. These settings are still important when printing out the roof. Make sure that the preview shows a good representation of your roof, then click **Print**.
31. Once printed, cut the roof out. The ridge lines mark where you need to fold the roof to form the correct slope.