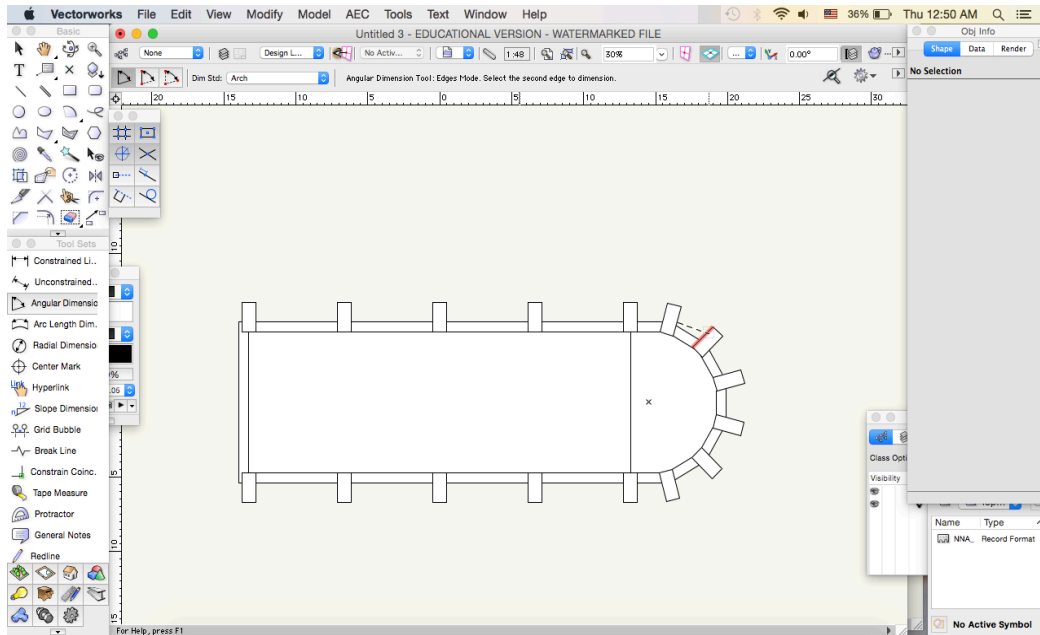


## Adding and Subtracting 3D Shapes

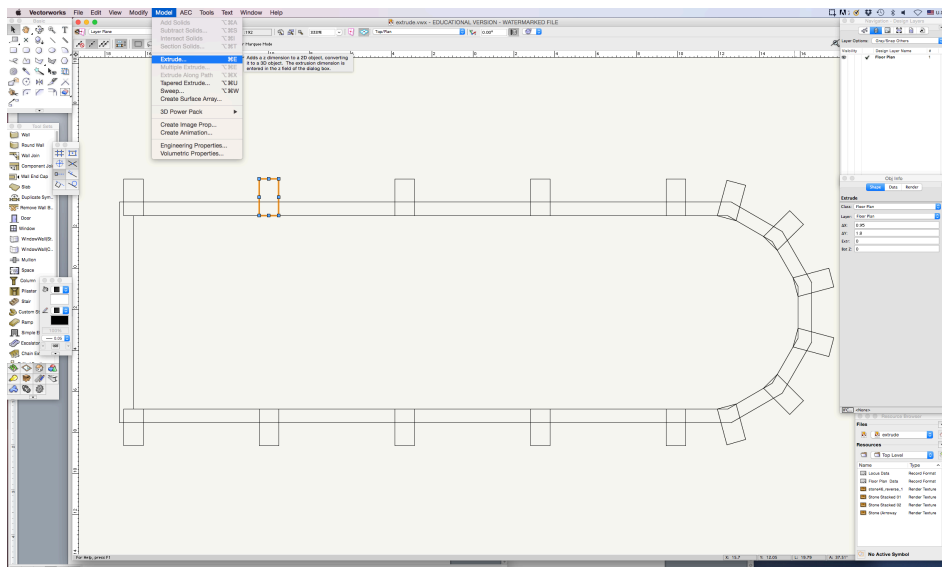
You can review these comments in the Lynda.com video for Vectorworks: 3D Concepts and Creating and working with 3D objects.

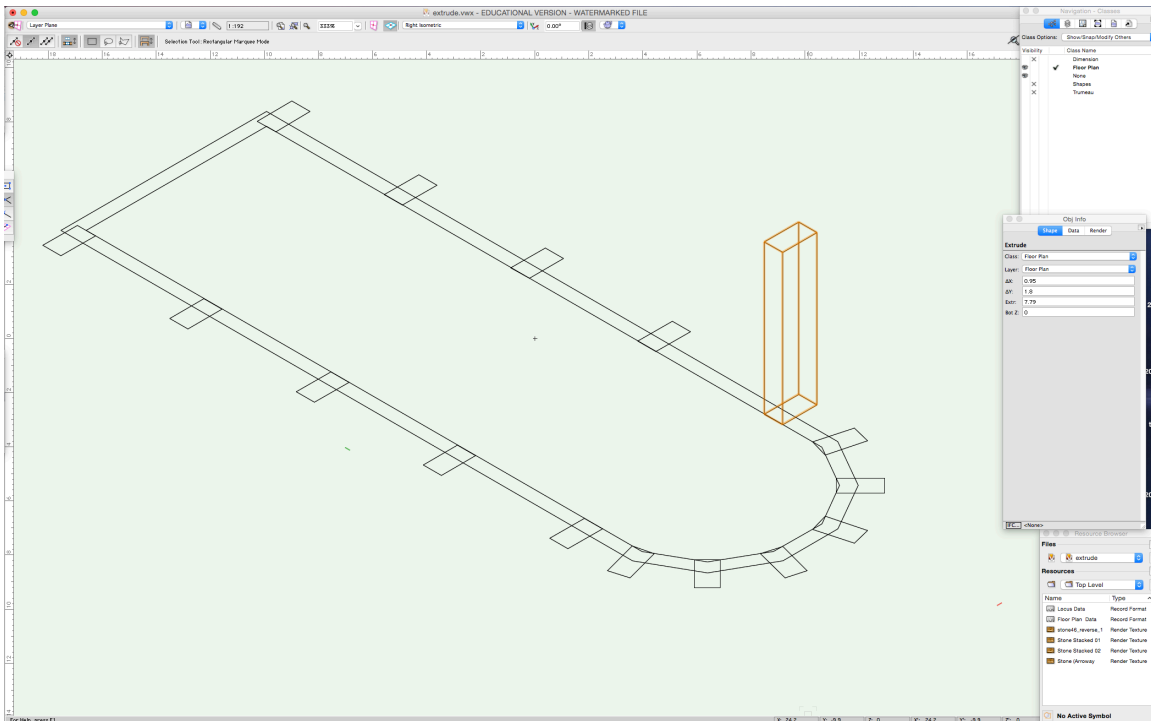
Step 1. Use the floor plan that you created for your project or use the generic floor plan available in the Resources folder on the course web site.

Step 2. Draw in top/plan view.

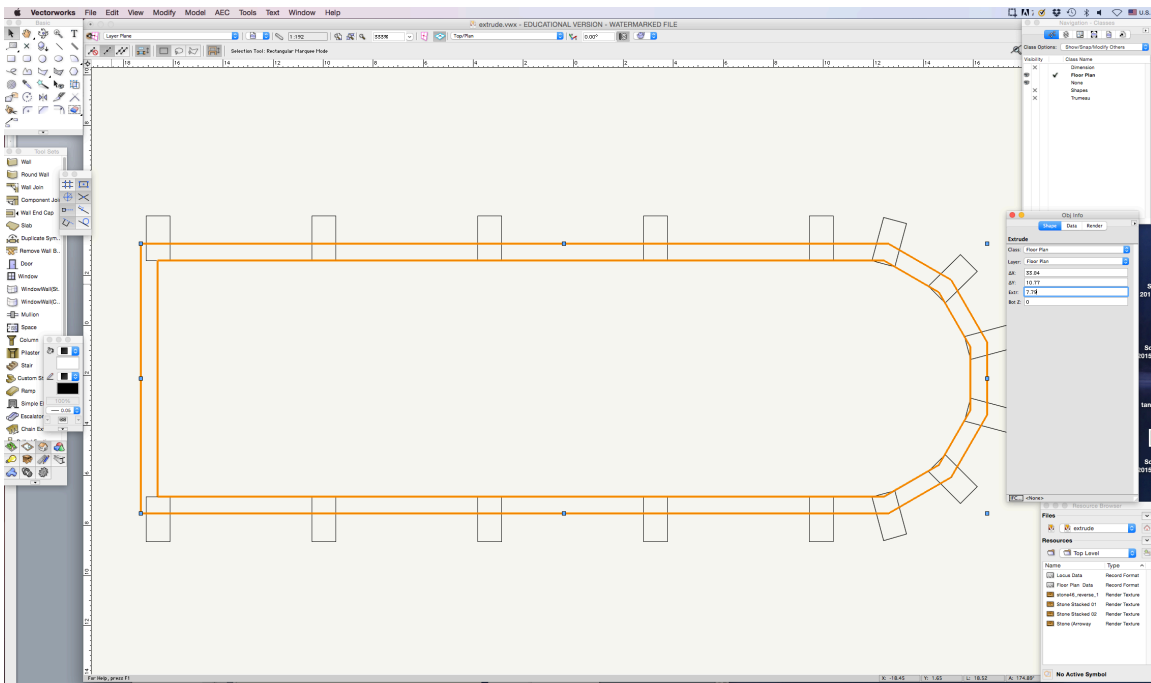


1. Select a buttress shape and extrude to 7.79 m

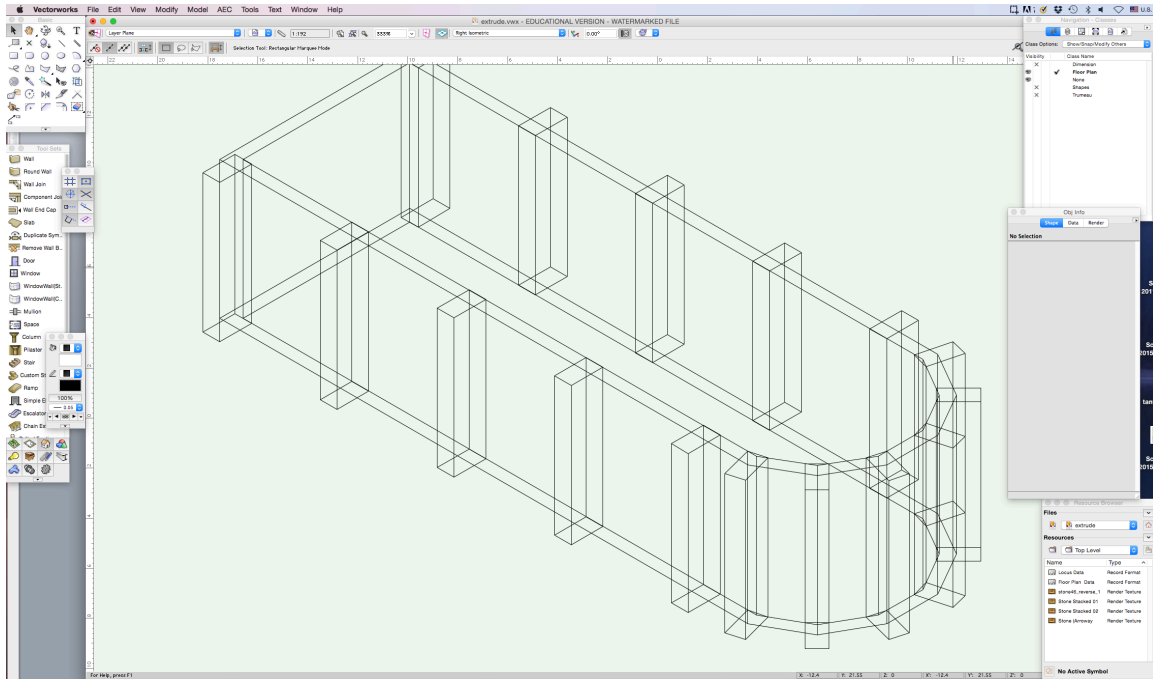




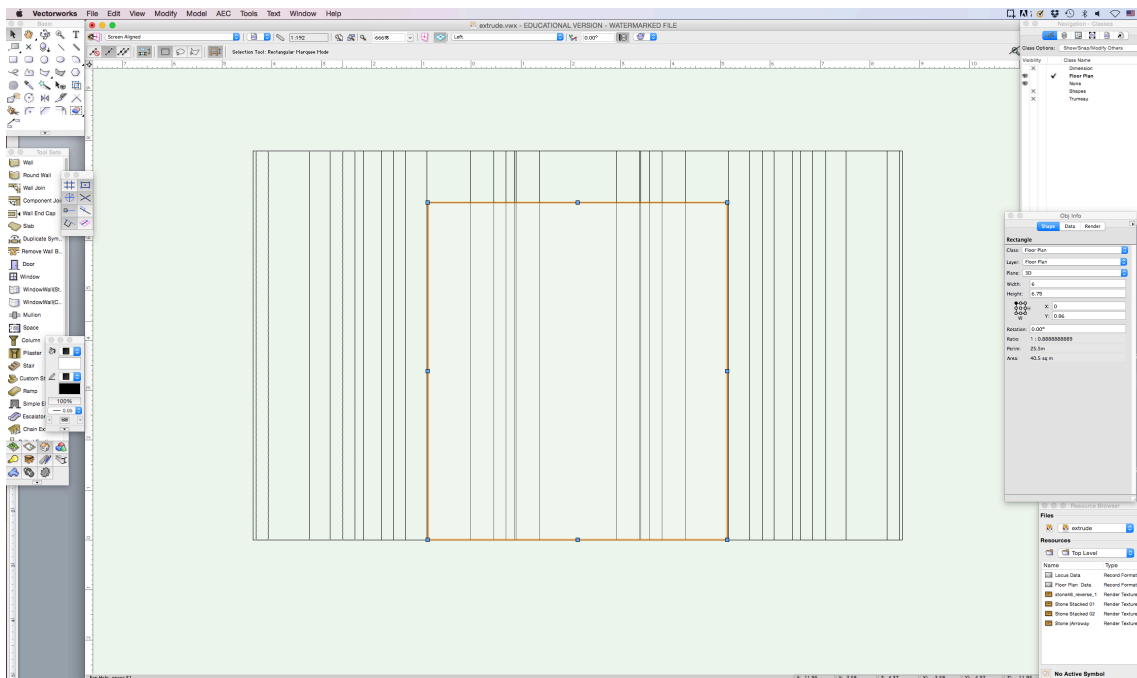
2. Continue to extrude each buttress to the same height.
3. Now select the footprint of the walls on the floor plan. Extrude to 7.79m, which is the same height as the exterior buttresses.



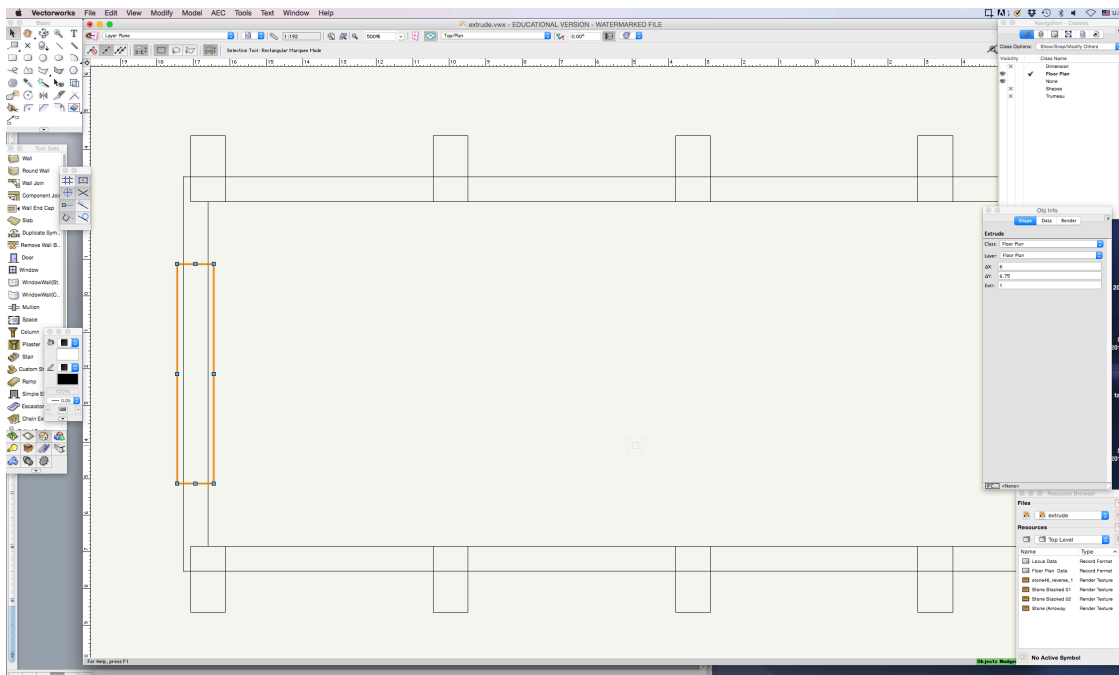
4. Go to an isometric view to see the 3D form.



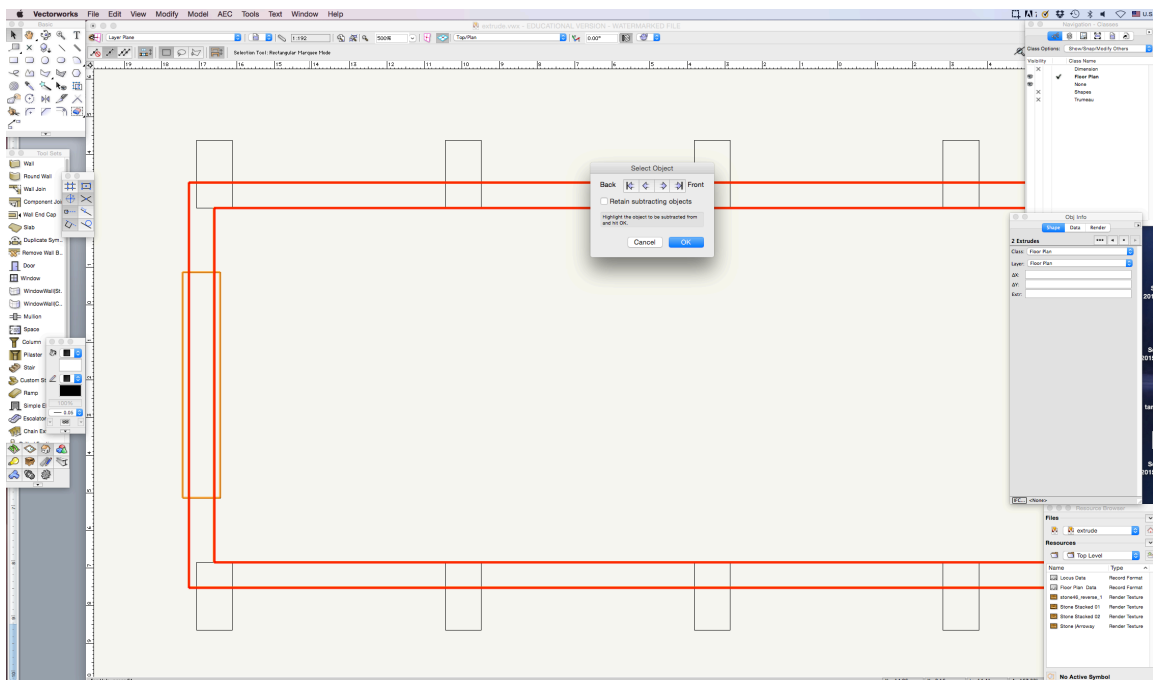
5. Now create a doorway to pierce the entrance to the chapel (west end). Go to the appropriate view and create a rectangle that is 6m wide and 6.75m high. Snap the rectangle so that it is positioned within the center of the face and its base is at the ground level.



6. Extrude the rectangle to 1m. Go to top/plan view to position the extruded rectangle so that it covers the wall.



7. Select the extruded rectangle and the walls. Hold down the shift key to select multiple objects. Go to "Model > Subtract Solid." Make sure that the object you want to retain is highlighted. Click OK.



8. Render in OpenGL and go to an isometric view to see the doorway opening.

